

Toni Hagen

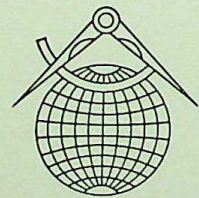
Nepal



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Friedrich Traugott Wahlen

Walter Robert Corti



Kummerly & Frey · Geographical Publishers · Berne

Nepal

The Kingdom in the Himalayas

Oxford Book & Stationery Co., 17 Park Street,
Calcutta 16, and Scindia House, New Delhi

Photographs: Toni Hagen

Photolithography, cartography, printing of colour photographs and relief map:

Kümmerly & Frey Ltd., Graphical Institute, Berne

Clichés: E. Kreienbühl & Co., Lucerne

Type: Monotype Garamond

Composition, printing, and binding: Stämpfli and Co., Berne

Paper: Biberist paper-mill

Graphic representation:

Kümmerly & Frey, Geographical Publishers, Berne

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Printed in Switzerland

To my dear, brave wife

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The work contains:
29 colour plates in offset printing and 42 monochrome plates in letterpress printing
18 sketch-maps, 1 relief map of Nepal

Translated by: Britta M. Charleston

Introduction

Nepal is a land of ageless pagodas and other wondrous relics bearing testimony to her very ancient culture and civilization. At least this is the impression that a casual visitor to the Valley of Kathmandu usually carries back home.

The major portion of Nepal however, owing to lack of efficient and comfortable means of transport and communication, is not yet open to average tourists. They speak of the splendour of the snows which they have viewed from a respectful distance. They are not aware of the demographic curiosities scattered throughout the interior of Nepal. Perhaps they also do not know that Nepal occupies a unique place as a show-room of ornithology.

In the context of the general ignorance about Nepal, this geographic picture book prepared by Dr. rer. nat. Toni Hagen will assuredly be a good eye-opener, not only to our foreign friends, but to our less-travelled compatriots too. Here, in this remarkable picture book, the readers will get, at one sweep, the magnificent spectacle that is Nepal. I am glad to state that Toni Hagen has travelled widely all over Nepal. He is a gifted observer and a patient analyst. There are few Nepalese who have travelled as widely in the country, and Toni Hagen, a true friend of Nepal, is the only foreigner who has seen so much of it.

The task he chose to do was not an easy one, inasmuch as Nepal is a land of variety from the geographical point of view. But Toni Hagen faced up to the challenge. And he made a good job of it. Toni Hagen has proved that he is not only a good geologist but a good photographer as well.

I am sure this book will win many new friends for us. Toni Hagen deserves the grateful thanks of all those who love Nepal.

Kathmandu, September 1960.

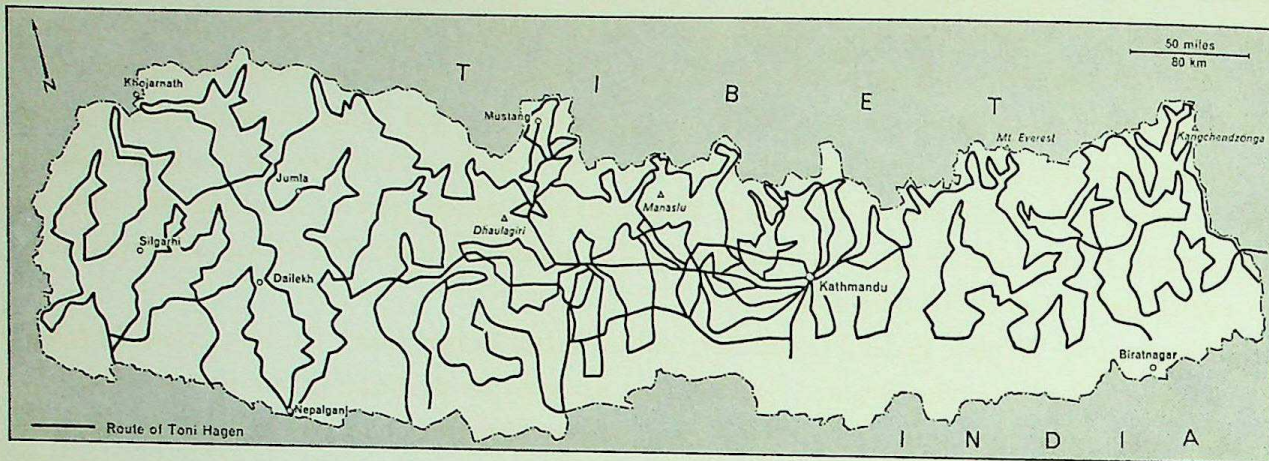
B. P. KOIRALA

Preface

Consider once again the picture on the dust jacket. Is it not like a symbol of that distant land that links two worlds, that land of contrasts—Nepal! The gaunt iron supports of a bridge that has been destroyed by flood-waters stand out grimly against the sky. Loose tree-trunks laid upon them form a flimsy bridge over which the Nepalese peasants cross the raging waters with heavy burdens on their backs. Similarly, but in a loftier sense, it is Nepal's task, notwithstanding the apparently insurmountable obstacles that Nature has piled up here, to set up and maintain communications between the people to the south in India's tropical lowlands and the peoples who inhabit the desert regions of Inner Asia; between the ancient Indian and Indo-Aryan races and the Mongoloid peoples to the north; between the Hindu and ancient Buddhist cultures of the Indian sub-continent and the more recent forms of Tibetan Lamaism.

How much more is this mutilated bridge a symbol of Nepal's situation today, now that communications with Tibet—towards the north, that is to say—have been completely severed, and there exists little hope that even some makeshift form of communication will be opened up in the immediate future. In this book the comparison is often drawn between Nepal and Switzerland, and it is not without a certain justification that many Nepalese call their country the Asiatic Switzerland. The similarities between the two countries are surprisingly great, especially as regards agriculture, the problems of the mountain-peasants, and not least the political situation; for the two countries are both squeezed in between powerful neighbours, both are proud of their independence, and both are ready to fight to preserve it.

Switzerland has been said to constitute a bridge between north and south, between west and east; her solution of the linguistic problem and that of the minority-groups in the country has been universally commended. Yet even in this respect the Alpine range cannot justly be compared to the Himalayas. The German-speaking Swiss and the Italian-speaking inhabitants of the Ticino, the southernmost Swiss canton, i. e. Germans and Italians, belong to the same racial group. Anthropologically, however, Tibetans and Indians are entirely different. Nepal is thus the home of a much larger number of racial and ethnic groups and minorities. A multitude of languages are spoken in that country and the religions are just as diversified, yet all these people live peaceably together. No Nepalese would ever dream of fighting the adherents of any other religion because it is not the same as his own. On the contrary, in this

FIG. 1 *The Author's Route*

country they have today developed a form of syncretism that comprises every sphere of life and culture, and such tolerance reigns as might set an example to mankind in general.

If the expression "Wonderland" has any justification outside the fairy-tale, then it is here: the Wonderland of Nepal! The traveller discovers marvel upon marvel, and there are probably few countries in the world where so many monuments of art may be found within such a small compass as in the Kathmandu valley. A journey through Nepal today is still like a dream come true, a dream of the Hindu and Buddhist Middle Ages, so rooted in tradition, so unspoilt has this remote mountain-people remained to this day.

Land of contrasts! Its climate and above all its landscape are full of contrasts, admittedly. But he who passes through Nepal with open eyes will be struck by things far more amazing. Throne of the gods, land of shrines and sanctuaries, of magicians, of the highest peaks on the earth's surface—mysterious kingdom of the Himalayas! Nepal! Whoever has once visited it takes away with him unique and never-to-be-forgotten impressions. Yet most tourists see little more of Nepal than the valley of Kathmandu, the capital; with luck he may fly to Pokhara, at the southern foot of the Annapurna-massif. But it is not enough to travel through the country with the eyes of the aesthete alone in order to become acquainted with it. Today it is far more important to get acquainted with the problems and needs of this distant member of the human family. One cannot fail to observe that Nepal is engaged in a valiant struggle for her future, both economic and political.

I first set foot in the country in 1951. I am a geologist, and my principal interest was in stones and rocks. I was all too ready to apply to this strange and unknown world the standards I had been used to at home. My work completed, however, I returned to my native country in 1958 filled with a warm and sympathetic understanding for the problems of the developing countries. Today I am filled with a profound sense of gratitude to the people and institutions that enabled me to gain so much experience and knowledge during those eight years.

Students from developing countries are constantly remarking how much better they know our countries than we know theirs. And I myself have often been surprised to see how extraordinarily well-informed quite simple people are in the Orient—taxi-chauffeurs, for instance—about Swiss democracy and about our multilingual country. One of my experiences I found rather amusing and yet it left me feeling somewhat humbled: it was in Kathmandu in 1951 when, in connection with a lecture about Switzerland, the then Minister of Education, fired with enthusiasm, told his secretaries the story of William Tell, the legendary hero of my own country. The present work will, it is hoped, enlist sympathy for a small and valiant developing country.

To Professor F. T. Wahlen, Federal Councillor, and to Walter Robert Corti, Dr. hon. causa, I proffer my sincere thanks for having pointed out our duty towards the developing countries so clearly in their contributions. And what could have been more appropriate than to ask the Prime Minister of Nepal, Mr. B. P. Koirala himself, to contribute a short introduction to this volume? For him, freedom and human dignity are no empty words, for he has set his own life at stake fighting for Nepal's liberty.

TONI HAGEN

- 1 *Flowering rhododendron at the foot of Gurja-Himal.* Gurja-Himal lies in the western part of the Dhaulagiri-massif. The lower slopes of its southern flank, which rises from a sub-tropical plain, are densely wooded and almost uninhabited. At altitudes between 2500 and 3600 metres the woods are composed predominantly of rhododendrons. From March until May, when the rhododendron-trees are in bloom, the vast slopes are aflame with the red of the flowers (cp. Plate 51).



Our Responsibility towards Economically Developing Countries

With Cain's evasive answer, "Am I my brother's keeper?", a question was posed in the earliest days of man's history, a question that has continued to confront him ever since, and which we are facing today. We find it relatively easy to answer in connection with our nearest and dearest. It is somewhat less easy to feel the responsibility we owe to the next-larger community, the village or the town, for instance, or even our country. Thus it is not surprising that, in general, but maybe especially in Switzerland, the awakening of the feeling of responsibility for the shaping of the future of Europe and of the world has been a rather slow process. In this respect we find it difficult to keep up with the tempo of technical, economic and political development, which steadily causes distances to shrink and countries to draw ever closer to each other. A century and a half of peace, the state policy of active neutrality, our small nation's mentality, the belief that we render ourselves and the world the best service by seeing that we keep our own household in order and leave others to solve their own problems, have bred in us a feeling of self-sufficiency and complacency which almost completely dominates our way of thinking. Now, it is true, we are beginning to realize that the history of the world has become such a closely-woven tissue that it is becoming steadily more difficult for even the small states to slip through its meshes. Europe is being transformed, and that in such a way that we are forced to co-operate actively unless we are, a priori, willing to give up helping to govern our future destiny. That, however, also implies a common co-responsibility for shaping the world of tomorrow. The world has grown so small that no event can leave us unmoved, even if the theatre of it be, from our standpoint, at the uttermost ends of the earth. Nepal, the country to which this volume is dedicated, provides a striking example of this change. The "distant" and "unknown" Nepal, which, until recently, was mentioned in the newspapers only on account of the Himalaya expeditions and the works of technical assistance, has suddenly come to the forefront of interest in consequence of the political events in Asia. The actual distance between Europe and that "far-off" country of Nepal has also shrunk to a few hours' flight, thanks to modern

Slightly adapted text of an address to the second General Meeting of Protestant University Graduates, Zurich, November 1959.

aeroplanes. We are, like all the generations before and after us, caught up in the stream of history. If we really wish to weigh our responsibility correctly, we cannot do so only from the viewpoint of today, but we must take the trouble to trace back the problems of the present day to their roots, and also to look ahead and consider what attitude and what actions we owe to the future. Let us now try to determine what responsibility and what tasks will fall to the lot of the West from this way of looking at the problem.

For cultured Asians, aware of their own traditions, it is irritating that the zero meridian should pass through the middle of Europe and that, in consequence, most maps of the world have Europe in the centre. The heirs of an ancient culture, which had attained its zenith when Central Europe was still covered with primeval forests and when hunters clad in skins still roamed them, they feel that it is a piece of unjustifiable presumption. To my generation of those born in Europe, on the contrary, the conception of Europe as the centre of the world was still so much a matter of course right up to the Second World War that we never even gave a thought to the cartographical expression of the fact. From our point of view, this map of the world with Europe as its centre and hub was profoundly and historically justified, for it was Europeans who first conceived the idea of the world as an entity. The frontiers of former empires in the west and in the east merged upon the unknown, and they were content to let it remain unknown. When the creative forces of the Renaissance arose out of the confrontation of antiquity with Christianity five hundred years ago, the peoples of Europe set out to explore the four corners of the earth. That they chose to conquer these newly discovered territories by force of arms and to exploit them economically is another story and one that will occupy us later. Wherever the European powers, in their irrepressible urge to explore and conquer, came upon sparsely settled regions, the original inhabitants were pushed further and further out until they lost all significance, and they were supplanted by European settlers, who took with them European constitutional systems and institutions, or who, like the USA, inspired by the European creative impulse, were able to cast them in new moulds. Thus North America and Oceania, and to a lesser degree also the Latin America states, became off-shoots of European thought, European culture and European institutions. We owe an immense debt of gratitude to the stimulating give-and-take of national and political progress, of scientific and technical advance, between Europe and these new nations. The fact that the burden of settling the world's affairs falls chiefly upon the broad shoulders of Europe's largest scion, namely, the United States of America, does not alter the fact that, from the historical point of view, we Europeans bear, for better or for worse, far and away the major part of the responsibility for the present state of the world, and therefore also for its thorniest problems. If anyone doubts this, he must be reminded, quite apart from what has already been said above, of the fact that historical materialism is an offspring of European and not of oriental philosophy, and that the Communist Manifesto was composed by Europeans in Western Europe.

One day, when the history of the middle decades of the 20th century comes to be written, attention will probably be drawn to the strange coincidence that the venture into space followed close upon the heels of the sudden collapse of colonialism, which put an end to the expansion of our Faustian gener-

ation over the face of the earth. Since the end of the war, 26 nations, all of them former colonial territories, have gained their independence, and others are on the threshold of self-government. Any form of colonial policy is today almost universally condemned and despised. (I am speaking now of the old style of colonialism and not of that special form that has developed behind the Iron Curtain.) A slight reminiscence may serve to illustrate how quickly, almost explosively, a development that was already in existence has been furthered by the Second World War, and how our attitude has changed accordingly. In the year 1931, that is to say exactly 30 years ago, the great Colonial Exhibition was opened in Paris. In Europe and also in the colonies it was felt to be a natural expression of an existing state of affairs, and if there was any spirit of criticism it was to be found among the ranks of the *avant garde*, who a few years later, but under very different circumstances, assumed the leadership of the national movements for liberation. Today not even the most hidebound Colonel Blimp would dream of holding a colonial exhibition. If he did do so, the reaction of universal public opinion may well be imagined. This is certainly not the place to sit in judgement upon the colonial period, but if we take the trouble to see the responsibility of the West in the light of the past as well, we must not simply pass it over in silence. We must, however, beware of over-simplification. It would be just as wrong to say that greed and lust for power and exploitation were the only motives of the colonial administration, which often lasted for centuries, as it would be hypocritical to pretend that the altruistic desire to bear the oft-quoted "white man's burden" was the mainspring that induced the colonial powers to undertake their conquests. On this point it is not so much our own opinion that counts as that of the peoples of the former colonies, and we can hardly blame them if the prevalent feeling is one of having been made to suffer indignity and injustice. The observation that their colonial overlords also brought them many benefits is received by the majority with pronounced scepticism and by others with passionate denial. It must also be admitted that the few developing countries that were never under colonial domination, such as Thailand and Iran, have profited from the progress of Western civilization in almost the same measure as the former colonial countries of eastern Asia or the Middle East, just as, on the other hand, they have also been exposed to its doubtful influences. In this respect, it is true, Nepal is a special case; from the beginning of its history that mountainous country has never been a colony, but always a free country. This, together with frontiers that were almost hermetically sealed against the outside world from the colonial era until the year 1950, has not only deprived Nepal of the civilizing achievements of colonialism, but has also spared it the evils of imperialism. It is incontestable that, in the early days of colonialism and until very recent times, the entire economy of these countries was directed by an inflexible and hard-headed mercantilism exclusively to the production and export of agricultural produce and raw materials, in order to guarantee the sale of finished goods from the metropolitan territories, and that this policy contributed greatly to keeping the economy, and hence the social level, backward and in a state of stagnation. In many colonial countries, the white man's arrogant attitude of superiority undoubtedly inflicted grievous wounds, which it will be difficult to heal, and unfortunately even today, from sheer thoughtlessness, insult is often added to injury in this respect. Thus, looking back, we must

in many regards, and not least in respect of what is today styled "human relations", call the history of colonial policy – apart from certain praiseworthy exceptions – a history of missed opportunities. I would expressly stress the fact that I by no means say this with the presumption of a member of a nation that has itself never been faced with the temptations of a colonial policy. Here, too, I am speaking of the responsibility of the West in general and am perfectly well aware that if, on the one hand, Swiss enterprise, Swiss diligence, Swiss efficiency have acquired for themselves a respectable position in many former colonies yet, on the other hand, our citizens also share in the faults to which I have just alluded.

This digression back into the past may now serve us as a point of departure for the recognition of the tasks of the present. Above all, I see them condensed into this one phrase: the struggle to understand the situation and the behaviour of the underdeveloped countries. We must take the trouble to understand, in the light of the historical background, the behaviour of the new nations in their first reactions towards their newly-gained independence, which often seem unreasonable, and also to understand them in the light of the present economic and social situation, which they feel to be a consequence of their history, greatly influenced as it is by the West. This understanding is not only a matter of good will. We must work hard to acquire it, and it must be upheld by a lively feeling of responsibility.

A great deal has been written in recent years about the economic and social situation of the economically underdeveloped countries, or the developing countries, as we prefer to call them today. The publications of the secretariates of the United Nations, above all, and of the special agencies associated with them, contain a very rich statistical material on this question. From the official enquiries and statistics of the FAO (Food and Agriculture Organization), for instance, we know that two thirds of humanity still suffer from undernourishment, either as regards the number of calories received or in respect of the amount of the available resistance-promoting substances, that is to say, the proteins and vitamins. We know that the average expectation of life in many developing countries is only half that attained in the West, i.e. 68–70 years. In Switzerland we have, on an average, 1 doctor per 700 of the population and 1 hospital-bed to 68 inhabitants, while the comparative figures for Nigeria, for example, are 57 000 and 22 000, and for Nepal even approximately 100 000 and 16 000 !

The industrially advanced West, i.e. North America, Western Europe, and Oceania, comprise about two tenths of the World's inhabitants, while it disposes of seven tenths of the world's income. What is more serious, these crass differences, for which no man can answer to his moral conscience, have even had the tendency to grow more pronounced as a result of the rapid economic development of the West in the last few decades.

It would be an easy matter to lay before you further impressive figures for comparison, but to realize fully what they mean in terms of human misery and suffering, we must look at their implications in human life. I am thinking of the Indio of the high-lying tableland of the Andes, who will sit for hours on a stone with a fixed and vacant gaze, bearing in him the apathetic resignation of generations of his forefathers, who were never anything but the property of their colonial masters, just as their descendents, still today, live as outcasts or pariahs, beyond the pale of society. I am thinking of the children in the

jungle of the Amazon region or in the primeval forests of Africa, who are scarcely able to bear on their thin little legs the weight of their swollen bellies, which are due to malnutrition and lack of proteins. And within me rises the vision of that journey by night in a comfortable motor-car from the airfield to the comfortable hotel in Calcutta, during which one could see thousands of homeless people sleeping by the wayside in the pouring monsoon rains, none of whom knew how he was to satisfy his hunger when he woke up. And I am thinking of the visits to the hovels of fellahin, whose only household furniture and domestic utensils literally comprised a thin reed-mat on which the parents slept, a stone hand-mill for grinding corn, an earthenware cover for baking the thin flat bread on the bare floor, and a pitcher. And I am thinking of many a worse sight, of which one hardly dares to speak.

What I have said above, together with the problems of Nepal described in this book, however, should suffice to rouse the understanding that I spoke of as being an important duty, and even our bounden duty today; an understanding of the present ferment and unrest in Asia, Africa, and Latin America, which so greatly upset our peace of mind and our plans. We must endeavour to find at least a minimum of comprehension for the actions of these peoples and their governments, which may often seem to us unreasonable, incomprehensible and even repellent. We must try to put ourselves in the place of these peoples, not only to be able to understand them, but also to be able to find the right way to help them to get out of this situation. Wittingly or unwittingly, these former colonial peoples are torn between two ideals. They have to acknowledge the superiority of their former colonial masters in scientific, technical and enonomic spheres, and would like to copy them as quickly as possible. That this cannot be done without their giving up at least some part of their own conception of the world and their culture creates uncertainty, irritation and tension, nationalist and religious feelings often becoming merged. Thus, for instance, there is no way of reconciling the present idea of Arabism with the demands of modern life in a way that is emotionally satisfactory. The religious laws valid in the Hindu areas of Nepal partly act as a serious brake on development; one need think only of the sacred cows, which make rational cattle-breeding almost impossible. One of the roots of the wildly exaggerated and arrogant nationalism that we often encounter is the seemingly irreconcilable discrepancy between these two ideals.

It would be a grievous error to supply, as a form of aid, our Western civilization like a prefabricated house, as it were, key and all. Not everything that we have achieved for ourselves and found to be convenient is suitable to the conditions in the developing countries, which are so entirely different from our own; and for them, too, who differ so immensely in regard to the values of their autochthonous civilization and religion, and also in the natural circumstances regulating their lives, there is no generally valid recipe. I shall have cause to return to this point later. Here I will only add that this limitation must also be extended to apply to our idea of Democracy as the only desirable form of government. In the West, it is the result of a long process of evolution and cannot simply be grafted upon conditions that have entirely different historical background. It would be much wiser to try to find solutions that combine a minimum of authority in the hands of those capable of responsible statesmanship, with a maximum of possibilities of an evolution towards Democracy. Then, with all our desire to help remedy the

economic and social distress, we must be careful to avoid giving the impression that the perfecting of the material standard of living is the one and only leading idea of the West. That will be all the easier for us the more profoundly our desire to help is rooted in Christianity, and the more we firmly resist falling victims ourselves to the Western form of materialism. Finally, too, we must not approach our task with the mistaken notion that we alone are the donors and that on the other side there are only recipients. The word "under-developed" must, in our minds, refer only to economic and social conditions, and we must be aware that many "under-developed" countries have a great deal to give us in matters of culture and a way of life. In this connection I would refer the reader to the contribution of Walter Robert Corti in this volume. After this *prise de conscience* we can now turn to the tasks that lie ahead of us, on the solution of which the future of the world and our own future in so great a measure depend. We are faced with such an urgent and comprehensive appeal by world-history as has never before been made to any generation. Allow me to illustrate this by an obvious example.

Recently there died a man whose legacy must not be forgotten by any European who wants to work in the field of assistance to economically developing and distressed countries. I am speaking of George C. Marshall, who made the suggestion in his speech at Harvard on the 5th of June, 1947, that an equally large sum of money should be staked on winning the peace as had hitherto been spent only on preparation for wars and on warfare. It is impossible to imagine what would have become of Europe if George C. Marshall's ideas had been rejected by the American nation at the time. And it is sad to think how much better off the Europe of today would be if the eastern European states had at that time not been refused the right to participate in the plan that will for ever remain associated with the name of that great general and great man.

The analogy between the historic decision taken by the USA in the year 1947 and the action to which the entire West is called today, is self-evident, only that the work facing us, which has already been begun, is incomparably more complex and protracted. If, in 1947, two ideologies were struggling for the soul of Europe, the entire world is the front on which they face each other today. The action that, in the face of this situation, is cogently necessary for the West today is to bring technical, economic and financial aid to the developing countries, conceived on a generous scale and carried out with far-sighted magnanimity and perseverance.

The idea of technical assistance, of which I should like to speak first, was contained in embryo already in the charter of the old League of Nations, without, however, having been put into practice. Its most striking formulation was found in the now famous inaugural speech of President Truman on the 20th of January, 1949. The exchange of the achievements of culture and technical science between the nations that he proposed is as old as mankind itself, as a process of natural osmosis. What was new in Truman's programme, however, was the creation of a systematic organization as the bearer of this process of transference and new is, above all, the recognition of an ethical obligation to do so. This awakening of a social conscience that is no longer effective only inside our own frontiers, but also in world-wide concerns, is something entirely new which does credit to our century. The spark that

Truman struck in the Capitol sprang over to the meeting-hall of the General Assembly of the United Nations, and in 1950 a multilateral technical programme of aid began to develop on a small scale under the aegis of the UN and the specialized agencies belonging to it. In 1958 the contributions of 82 countries to this work amounted to 33.8 million dollars, as compared with 14 million in the year 1950. This sum made it possible to send 2539 experts in very varied special fields to developing countries and the granting of 2500 fellowships to nationals of these countries, with the idea that on their return these men and women should continue the work of the experts. Moreover, a modest part of the available resources – some 10 % – was used for the purchase of instruments and other apparatus that were not obtainable in the respective countries themselves, but which were indispensable to the work of the experts. In order to take from the work the character of a one-sided aid, it was from the very beginning organized in the form of a pact for mutual assistance and exchange of technical, economic and cultural experience between the participating nations, the rights and duties between the states concerned and the organizations being laid down in an agreement. Not only do the developing countries make at least symbolic contributions to the funds of the UN for technical aid, but they have to bear the living-expenses of the experts, the cost of medical aid and hospital care in case of need, and of the purchase of the materials that are obtainable within the country itself, as well as half the travelling-expenses of the fellowship students to the place where they will obtain their training or education. It is a matter of course that they also have the right to make proposals and to participate in discussions in drawing up the national programme, and by the developing countries' membership of the economic and social council of the UN they have a word to say in the drafting of the programme as a whole. This position of equality of rights enjoyed by the developing countries, together with the circumstance that the whole world is at the free disposal of the UN and its specialized agencies for recruiting its experts and for the choice of places of education and training for the fellowship students, has endowed this multilateral form of technical aid with a special attraction. The system guarantees a genuine co-operation unhampered by political commitments and obligations, founded as it is on a virtually co-operative basis.

The programme of the technical assistance of the UN, in which Switzerland participated from the very beginning although it is not a regular member of the organization, and to which it will contribute an increased sum of two million Swiss francs annually as from 1960, is not the only form of multilateral aid. The Colombo Plan may be mentioned among the existing organizations of a regional character, which unites the British Commonwealth states for the purpose of mutual aid. The aid granted on a bilateral basis has developed on a yet greater scale, the USA having spent 375 million dollars in the year 1958 for this alone. Lately, the German Federal Republic has also joined in with large sums on a bilateral basis.

This is not the place to enter into a discussion on the details of the advantages and drawbacks of the two systems. Let it suffice to say that for Switzerland the participation in the UN multilateral programme of aid is not only a foregone conclusion, but also a cogent necessity. It puts our country in a position to

prove its solidarity within the framework of an international activity in spite of its standing aside from the political commitments of this organization. By the same token, our country is also a very welcome mediator of bilateral aid, since it is not encumbered with any colonial past and, being a small state, is not politically suspect. In correct recognition of this fact, the Swiss Parliament has not only increased the credits for the multilateral aid, but has also granted increased credits for our state bilateral aid.

If we have so far spoken only of the technical aid from state to state, we must nevertheless not lose sight of the fact that the privately organized technical aid deserves very special "honourable mention", even if it has to remain far behind the state contributions in volume. It enables each citizen to contribute his share to this work, the most important in our century. I should like, therefore, to make a very warm appeal here for your support of the Swiss aid for extra-European areas and to express my great satisfaction that the circles of Swiss industry and banking are endowing the newly-created foundation for help towards development with the necessary funds, which has as its special aim the organization of courses of instruction for workmen and foremen in developing countries. As regards technical assistance, the land of Nepal portrayed in this volume may in many respects be considered a "test case". Almost all international, and the largest bilateral, organizations are working in Nepal. Owing to the small size of the country, it is comparatively easy to get some idea of the effects and results of the technical assistance. In the session of November 1958, the General Assembly of the UN also chose Nepal to be the experimental field for the new so-called OPEX programme (Operational and Executive). This programme provides for experts to be sent to the developing countries not only as advisers but as heads of departments with executive powers.

Before attempting to draw any conclusions from the work of the technical assistance so far, and to judge of its prospects of success, I wish to turn briefly to the questions of economic and financial aid.

The distress of the developing countries cannot be overcome by the sharing of knowledge and skills alone. They live in a vicious circle of poverty. Because their revenues are so appallingly small, nothing or exceedingly little can be laid by and saved. Therefore no capital can be created; in consequence investments for the founding of industries and other new opportunities for earning money are out of the question, as a result of which the state also lacks the means of creating an economic and administrative "infrastructure" and possibilities of education and training and so for the most part the potential natural wealth and manpower lie fallow. The fateful chain of poverty, ignorance, disease and hunger can only be broken if, besides the indispensable knowledge and skill, capital is injected from abroad as an igniting spark.

This point of view has begun to prevail more and more during the last ten years. The International Bank for Reconstruction and Development, the so-called World Bank, founded in the year 1946, has undoubtedly accomplished a great deal. In the past year alone it has granted approximately 750 million dollars in loans. It is, however, exclusively a question of loans that have to satisfy the strict technical requirements of banking, and in proportion to the need, its effect is not much more than a drop in the ocean. Its activity has recently been supplemented by the International Finance Corporation, which

has the special task of promoting private industry in the backward countries. A further very welcome step forward was the creation of the UN Special Fund in the year 1959, which is to bridge the gap between the technical assistance and the capital aid, which was growing more and more perceptible. In contrast to the technical assistance, it will deal with a few very promising projects, which often derive from the last-mentioned, but which require deeper study and have still actually to be properly planned before they can be considered ready for execution, and which therefore demand a greater expenditure than the technical assistance is able to grant for a single enterprise. Moreover, the fund can also use the resources at its disposal for financing and equipping educational establishments.

Very recently, the founding of an International Development Association was proposed by the USA, and the initiative met with such a good response that we may reckon this organization will come into existence in the near future. Its aim would be the financing of well-founded projects of high priority in developing countries, the risks of which would be too great under the strict requirements of the World Bank. The founding capital is to amount to a thousand million dollars. That is a high figure; it will, however, be seen in true proportion if it is borne in mind that Paul G. Hoffman, the former head of the Marshall Plan and today Managing Director of the above-mentioned Special Fund of the UN, estimates the capital investment need of the developing countries from abroad for the next ten years to amount to 60-80 thousand million dollars, whereby only realistic and really feasible projects are taken into consideration.

Quite considerable funds also flow, it is true, from other sources than those mentioned so far. Thus, state banks for the promotion of export play an important part, as well as private credit-donors, and as, especially in the case of Switzerland, the effect of the state guarantees against export risks, which enables the granting of credit aid through private enterprises, which is highly desirable, has been of considerable importance. Today it is just the most important developing countries that, in consequence of their great efforts, have reached a point where they are no longer able to contract the usual mid-term debts to finance imports essential for their development schemes. The supply-firms are therefore faced with the necessity of granting long-term credits in order to keep up the relations already opened up, and that again brings in its wake an adjustment of the stipulations regulating the state guarantees.

From this short and incomplete enumeration of the initiatives actually being carried out, one or the other reader may have received the impression that a very great deal is already being done. I would agree with this opinion up to a point, but I consider that a better co-ordination of efforts between the various organizations would be desirable; however, as regards the issue itself, it must be remembered that the sum total of all the efforts being made today represent merely a first step in the right direction, considering how much is still actually needed. It must not be forgotten that the economically advanced West owes its prosperity to the industrial and technical revolution that began almost 200 years ago. If the conclusion that must be drawn from this is that the promotion of development is a very long-term undertaking, all the factors nevertheless urge us to make haste, for time presses. At the beginning, the Soviet Union stood aloof from the aid to development, true to its attitude towards the Marshall Plan.

Presumably not least on account of the unexpected success of the Marshall Plan aid, and well aware of the feverish expectation of the developing countries with regard to a rapid improvement in their economic and social positions, it has now begun to join in the aid schemes, and that with a massive offensive proportionate to its greatly increased economic power, which may be all the more successful the more the idea of a "peaceful co-existence" makes headway in the wake of the temporary easing of tension. In this, the Soviet Union has the great advantage of a centrally organized economic and financial apparatus, which enables energies to be concentrated at just that sector of the world-wide front that, at any given moment, promises the greatest political success. The Soviet Union also profits from the indisputable fact that they have achieved, in a relatively short space of time, a very high level of scientific and technical equipment; for the developing countries are apt to look rather at the results than at the price paid for them, which the members of a free society that values the dignity of the individual human being would never pay of their own free will. And last of all, it also profits from the mistakes made by the West in their development aid, and it is just from the Christian standpoint that it must give us cause for thought that, in many cases, the Russian experts find the way to "human relations" and personal contact more readily than do those of the West. In any case we are here faced with a situation that, even apart from the purely humanitarian aspects of development aid, cannot leave us indifferent. The decision as to the future shape of the world will be made in the camp of the developing countries, who are sitting, as it were, on the fence between West and East, and who, in their desperate situation, will choose that economic system that promises to help them out of the bog of their economic misery most quickly. I do not need to follow up this train of thought any further to impress upon you the fact that haste is imperative.

In the years 1949-1958 I devoted the major part of my work to the developing countries, and I experienced at first hand their successes and failures in all the areas under the care of the FAO, its sister-organizations, the World Bank, the American bilateral aid, the Colombo Plan and other institutions. I can therefore speak from personal experience, and I do so with no illusions. I should like to stress that, in spite of the failures that have occurred besides many splendid successes, in spite of the disappointments caused by incapable and in part corrupt administrations, despite the lack of co-ordination between multilateral and bilateral programmes, and in spite of the political undertone that on occasion threatens to thrust the purely humanitarian motive of the aid into the background, it is my firm conviction that the West must solve this problem if it is to remain true to itself. I consider the last ten years to have been a large-scale experiment, from which both the donor countries and the recipients may draw valuable lessons. All the participants know today, better than they did at the beginning, that the work must be done from the bottom upwards according to a fixed plan. One of the most telling examples is the "Community Development Program" in India, which is striving to improve the agrarian structure, the sanitary and living conditions, the network of roads, schooling and adult education at village level, and that with the inclusion of a far-reaching system of community and co-operative self-help. The absolute necessity of training a skeleton elite and a competent and incorruptible administration has be-

come more apparent than was the case ten years ago. Slowly the conviction is gaining ground, too, that everything must not be expected from the state, but that it is necessary that everyone should contribute his share, and it is in this, especially, that I hope that the bilateral aid of the private or "non-state" enterprises will provide a contribution of qualitative importance.

Existing difficulties have become apparent, such as the lack of a trained class intermediate between the university graduates with academic training and the mass of the workers and peasants. A great deal has already been gained by the fact that the West has given up the naïve belief that a mere sharing of its experience and "know-how", its knowledge and skills, its procedures, methods and institutions will work wonders in a very short time. The better the West understands how to play its role as a partner in an exciting adventure, as a catalyst, in a beneficial process of growth and development, the more it strives to comprehend previous historical evolution, not condemning it all out of hand but acknowledging what is good in it, the quicker will the necessary confidence come of itself, and with it the patience that is a safeguard against rash economic and political experiments intended to force rapid success. Patience, understanding and confidence are ingredients in the recipe-book of the "development aid", without which neither competence nor dollars alone can lead to our goal. The goal is the preservation of a free world. Dostoevsky makes his Grand Inquisitor say: "In the end they will lay their freedom at our feet, and say to us, 'Make us your slaves, but feed us'."

Aid for developing countries aims to do just the opposite. For millions of people freedom can mean nothing today, because they have never had enough to eat, and for them "human dignity" is a meaningless phrase. It is our historical responsibility to see to it that freedom will seem to them, as to us, that one good thing that alone can make everything else worth while. Then they will also be ready to fight for it and to help us to preserve that which gives meaning to our lives.

FRIEDRICH TRAUGOTT WAHLEN

The Role of the Individual in the Ideological Struggle of Our Time

Plato makes wonder and amazement the root of wisdom, of the love of wisdom. "Yes, Socrates," says Theaetetus, "and I am amazed when I think of them" (i. e. the significance of things); "by the gods I am! and I want to know what on earth they mean; and there are times when my head quite swims with the contemplation of them." And indeed, we feel just the same today. With these words the great Athenian described an ancient and fundamental fact, and whoever thinks it over carefully will find much of man's being revealed in it.

What science tells us about the structure of the world and of the interior of the atom, what the newspapers report day by day about the incomprehensible confusion among the nations of the world, these things rouse us to amazement, either to delight us or to vex us.

It need not be "great" things—a beetle on a chervil flower will suffice, or a waterfall, or the profound silence in a wood. If you cross your index and middle fingers and place the tips of those fingers on the tip of your nose, you will feel quite clearly that your nose has two tips. Mostly we lack the time and inward serenity to devote ourselves to amazement in silence and reflection. We feel that important, essential things would surely be revealed to us if we did, but we have not sufficient patience to let wonder operate within us.

Wonder has been defined as an "intellectual emotion" that rises in our consciousness when our experience and thought encounter something unexpected, something paradoxical. Everyone has experienced it, but not everyone is familiar enough with it to feel at home with it. We just accept the fact that it comes and goes. If we stop to examine how we stand with regard to it, we find that it has already vanished, swept away by new impressions.

Wonder, as a form of amazement, appears in many guises. It may be quite a harmless mathematical or technical problem that fascinates and irritates us, an ingenious conjuring trick that holds us spellbound, the sudden and unexpected news of the death of a friend—we are taken aback, alarmed, surprised, downcast and startled. We are summoned to make up our minds as to what we think, to scrutinize our own judgement, to widen our horizon. The world is not what we had thought it to be. Suddenly it assumes a different, an unfamiliar, a surprising aspect.

The unforeseen is constantly overtaking us, it is part and parcel of our daily lives. If it fails to occur, tedium steals upon us and we seek variety ourselves. The explorer and the adventurer actually provoke and brave the unexpected.

There is the courage of wonder, just as there is a form of cowardice that makes us flee the sense of wonder. The hoped-for is granted or denied, the unhoped-for and undesired strikes with cruel force in our own existence. We strive to accept it stoically, defiantly, though we are distressed, resigned, offended and angered that it should disturb our peace of mind. What we love, what we hold to be just and true, we see wilfully opposed by others. We are deeply attached to our familiar conceptions of what the world should be, as we wish it to be, and we are hurt when it behaves in an entirely different way. Fatalism, that "abandon on the part of reason", accepts with resignation whatever Fate ordains, sickness and war, victory or defeat, praise or blame. In the eyes of the fatalist, everything is veiled in mystery and predestined; for good and for evil, blind necessity reigns, and man cannot change anything. Fortunate the man who can make a virtue of this wretched necessity, who can be content to accept the inevitable, *amor fati*.

In contrast to this attitude, there are many forms of activism. Activism lives by the Promethean power to mould the world to its own ideas and values, to do battle against evil and wickedness, to defy the powers, to set up a realm of beauty, truth and justice. "Allah need create no more, We ourselves can frame his world." For the activist, creation is still unfinished, and he appoints himself to finish it. He therefore drafts plans for the present and for the future, and those who are fired by them are helping to build Utopia.

Some believe it must grow and mature slowly, by the gentle persuasion of education; others want to bring it about by force. To change the world and society in accordance with their visions, the evolutionaries, like the revolutionaries, need to dispose of means and men. They tend to see power only as a means of achieving their great aims and they promise those whom it irks that it will later die away of itself, dismantled like scaffolding that in the end has become superfluous.

But no sooner is it in their possession than they, too, succumb to its demonry. The man who achieves power is prone to forget the aim which alone that power was meant to serve, and he grows attached to the enjoyment of that power for its own sake. He resolutely continues building it up until it becomes a fortress, transforming the bearers of his religious, political, or social ideology until they are merely soldiers to defend his power. All activists agree that the world must be different from what it seems to us to be today. But *how* it is to be shaped, what form it is to assume, on this point opinions differ to a degree of agonizing extremes.

Herder called mankind the first freedmen of creation, free of the leading-strings of the instincts, which govern the lives of the animals. Until the arrival of man it was Nature who created; now man has superseded her as the creative factor. Nature's full heritage works in him, it is true, but in the intoxication of his new-found freedom he ignores it. And yet Nature does not seem to speak particularly clearly if he stops to listen to what slumbers in the depths whence he came. The emancipation is a deadly earnest

matter. There is no returning into the safe shelter of the womb. Man must build for himself a new habitation. And we surely cannot blame him if he does not succeed at the first attempt. The building-materials of the world are hard to survey in their entirety, and the primitive depths of the soul refractory. It is, of course, easy to conceive, in theory, a society of free people ordering their lives in justice and sincerity. But if an attempt is made to realise it, then from the archaic heritage comes an upsurge of disturbing elements that confuse the best intentions.

We live in the age of the masses, and these are defeated by their own psychology. Their relation to reason and to the spirit is different from that of the single individual. It may happen that leaders of the masses find themselves, overnight, led by another, and suddenly they are incapable of mastering the spiritual forces that are breaking loose. The saying that the spirit is the adversary of the soul holds equally good the other way round. Man still does not know his own nature well enough to be able to govern it in the collective according to a plan. This is one reason the more for mistrusting all historical prophecy. It is a part of Nature's legacy that man is a social being. He is born into a social structure, into the family, the group, into a nation and a state. The basis comes from Nature, the superstructure is left to man. In an instructive but by no means conclusive investigation, Henri Bergson studied the differences between human societies and those of animals. He finds that, wherever there are honeybees in the world, they live in a "closed" society; their behaviour is clearly governed by their instincts. They have neither political philosophers nor social revolutions, neither ministers nor parliaments among them. To call the central "mother-bee" the "queen" is misleading, as is all anthropomorphism. Their social behaviour is given them, not set them as a task still to be accomplished. Not one of the bees stops to feel astonished at their being and their compulsions. In their lives, wonder has no place, nor does their existence seem problematical to them. They do not wish to "reform" their world. Therefore they do not invent any moral system, or any religion; among them there are neither prophets nor slanderers, none of them attempts either to beautify or to transfigure existence.

But man suffers from his peculiar insecurity, from his immaturity, his unfinished state; the inexorable uncertainty, the problematical quality that faces him within himself weighs heavily upon him. A haze of sadness, it is true, veils the lives of all created beings, but man alone seems to be aware of it. He suffers, and in suffering contemplates his own suffering. He seeks to master it, to give it some meaning.

It is in this way that religions arise. They seek to fill a want, to restore the balance that has been disturbed, to heal a wound. "If our life were endless and painless," says Schopenhauer, "probably no one would think to ask why the world exists and why it is as it is." In this way, however, man, that *animal metaphysicum*, is forced to come to terms with the troublesome questioning, the uncasiness of his consciousness. So man toils to build up his society, his state, through the millennia. He little realizes how much the compulsions of Nature thwart and frustrate his own liberty in these efforts.

If he takes the animal-state as his model, he recognizes sadly that he lacks the social instincts that function, as it were, of themselves. They cannot be cultivated or transmitted by heredity. So he seeks a system of conscious behaviour that shall yet resemble them. If it is accepted voluntarily by the citizens

it may ultimately become a habit that functions well. Otherwise it must simply be enforced. If it satisfy physical as well as metaphysical needs, it will no doubt be possible to think of a society that is no less satisfactory than that of the bee and termite states. It cannot be denied that such ideas have been about, wittingly and unwittingly, in the development of mankind. Ever and again the vision of the ideal, of the true state, seduces us. But nowhere has it yet been put into practice successfully and convincingly. History shows us an unbroken series of such attempts, and the tragic toll of their failures. Everywhere man has been at pains to solve a special problem, which consists in the fact that he does not live by bread alone. He must still both the physical and the metaphysical hunger. If he concentrates only on the one, the other will rush in and upset his plans. If he tries to stifle his sense of wonder, it will shatter the supposedly ideal realm with elemental violence. Any form of social planning that does not take human nature as a whole into account has no prospect of permanence.

Today, the Sino-Russian form of Communism threatens the free world. Should it succeed in subjugating the whole world, owing to the weakness of the West, a weakness brought about by its own fault, man may make the certain prognosis of his own future ruin. The freedom-loving nature of man is stronger than any power that he may inflict upon himself. Unfortunately this does not exclude Bernhard of Clairvaux' bitter cognition: "*Habet mundus iste noctes suas et non paucas*" – this our world has its nights, nor are they few.

It is one of the particular and peculiar qualities of man that, when he sets about giving himself an ordered system, he begins with small communities. This explains the confusing diversity of languages, moral systems, and religions. They are all the offspring of freedom, not of Nature. They help to create "closed" communities.

Whoever did not speak Greek in ancient Athens was looked upon as a barbarian. If the early Christians were persecuted, they themselves were very soon persecuting the "heathens". The ethic of most species of ants cleaves to the maxim: "Whoever does not smell as I do is my enemy and will be killed." Only those who belong to the tribe, the clan, the caste, the nation, the party, the church, is a friend and true human being. There is no salvation outside it. The faith of the others is superstition. It is not humanity as such that unites but only the ideology.

Every "closed" community strives for power, allows its dogmas to harden into dogmatics, and begins to classify mankind according to the friend-or-foe formula. It requires of its adherents absolute belief and unconditional obedience. It claims the whole man. It does not want him to fall into the temptation of any other doctrine, which can only be heresy.

Moreover, it robs him of his own inherent freedom to feel wonder, to enjoy the sense of amazement, to indulge in critical reflection. He is to admire blindly. Where he does not prove to be willing, it uses force. It feels threatened by anyone who thinks differently from itself, and such men must be destroyed. It claims that it alone wants true peace, that is why it prepares for war. It is not only a question of breaking the evil power of the enemy, but it wants the pure teaching, the only true doctrine, to bring salvation to all men. That is the totalitarian claim.

Marx believed he could represent the history of mankind essentially as the story of hostile classes. It is, however, quite as much the history of "closed" communities that have opposed each other. And it is the fate of the Marxist movement in Russia that, even though they have exterminated certain classes there, they have by no means been able to hinder the formation of new ones. On the other hand, with all her appeal to science and reason, she herself has again only produced the hitherto most menacing form of a "closed" community that history has ever known.

In 1848 Marx and Engels concluded their manifesto with the following words: "The Communists disdain to conceal their views and aims. They openly declare that their ends can be attained only by the forcible overthrow of all existing social conditions. Let the ruling classes tremble at a communist revolution. The proletarians have nothing to lose but their chains. They have a world to win."

Today it is clear that people of all classes have a world to lose through Lenin's form of Communism—the world of their own personal conscience, of the right to wonder, of their own personal philosophy, of astonishment, of reflection as to truth and right, of the possibility of putting into practice the knowledge they have gained by their own judgement. Only as a co-ordinated whole, as men who have been brought into line and made politically uniform, are they of use to the worldwide revolution.

What gives Marxism its immense fertility is—far more than its doctrine and its methods—its consideration for the poor man. It is to him that it appeals, to him it promises its help and support. It is on this point that it touches the consciences of all who believe in an open community of freedom and justice. It does not deny that there have always been attempts to check the avoidable misery of humankind. But, it claims, these were not carried out with the necessary seriousness, they were not put into effect with sufficient earnestness. It was not only the goodwill that was lacking, it suggests, but also the "scientific" method necessary to deal with the matter as thoroughly as, for instance, modern bacteriology has been able effectively to deal with epidemics.

No reasonable person can shut his eyes to such arguments. The first World War took a toll of some nine million human lives, the second one about 30 million.

The command of atomic weapons has brought within the bounds of possibility the annihilation of all life upon earth in a third World War. It creates an entirely new situation and puts mankind in the position of the distressed Sorcerer's apprentice, who is at the mercy of the spirits that he has conjured up. The only good and sensible policy, unconditional disarmament, encounters the most unreasonable inhibitions. The danger of an atomic war increases fear, the worst counsellor of mankind. Added to this, there is everywhere a lack of the trained power of judgement to recognize the deadly perils and to banish them. Of ten children, it is still only four who receive even elementary education, and only one is given the opportunity to attend a secondary or a higher school, whereas the remaining five get no schooling at all. Still today, more than half of all persons above the age of ten have received no sort of education. They are the same people who have an expectation of life of only 30 years, and an annual income of less than 450 Swiss francs, 100 dollars, or about £ 35, and who, as a result of disease and undernourishment, are unable to do a whole day's work at a time. The UNESCO is constantly point-

ing out that hunger, poverty, disease and ignorance go hand in hand, but that ignorance must be called the worst of these evils, because it is the cause of the other three. More than one half of humanity goes to bed hungry, to sleep the uneasy sleep of worry and care. At the same time, mankind is increasing at a terrifying speed. In 1871 there was already talk of a "yellow peril", at a time when China's population was estimated to be a mere 255 million. For 1980, however, Peking statisticians reckon with a population of a thousand million Chinese. Today a further 110,000 children are born daily, which amounts to an annual increase of some 38 million in the population. If the increase continues at this rate, the four thousand million limit will be reached around the year 2000. All these people want to live. They perceive the structure of the world, they are aware of the difficulties of their existence. They wish to partake of all the technical amenities that are displayed to their eyes all over the world. It is understandable that they are interested in the methods of attaining them. There are many ways, but their poverty makes them more especially susceptible to the teachings of Marxism on class warfare, and there is no lack of active teachers.

The realization of this state of affairs is making headway in the entire non-Communist world. It comes as a disturbing and unpleasant surprise, but it also brings wholesome insight in its wake. In our enjoyment of freedom we have come to be lazy about our simplest duties. Here resentment is of no avail and every form of pride will take a bitter fall. Europe carried to all peoples the ideals of liberty, equality, and the rights of man, but only too often she did not live up to them herself. Now things are not working out as they should. Everywhere it has bred rivals, who are never exactly bursting with a sense of gratitude. They are grateful to penicillin, no doubt, but not to those who discovered it. The benefits of rational civilization are spreading across the whole world. Microscopes, motor-cars, and anaesthetizing apparatus are in use in Asia and Africa, without a thought being given to the effort and labour spent in developing them. Techniques break loose from the countries where they were invented and find a home among peoples who do not take over with them the Christian and Humanistic foundations in which they are ultimately rooted. But the doctrine of Marxian salvation also comes from the "West". From the standpoint of power-policy, Europe is no longer at the head, but the effects of European civilization are stronger than ever before. Only it has not succeeded in winning the non-European peoples with its spiritual culture as well. That may have the effect of a judgement upon us. If we teach the whole world the "rights of man" and do not live according to that doctrine convincingly ourselves, criticism cannot fail to follow. But it is a false attitude of penitence to try to make up for lost time now from the snug security of one's own small territory; no country, no single individual, can today stand aloof from the tasks that are set by mankind as a whole.

In this struggle, each one of us is called upon to ask himself where he stands, and what he can do to decrease the tensions and to banish the imminent dangers. The threat of an atomic war overshadows us all. A terrible paralysis emanates from the possibility of it. We are always meeting people who have resigned themselves to the inevitable, who say, "there is no point in it all", who no longer believe that the efforts of the individual are of any avail. They stare in fascination at the two most powerful poles

of the struggle today – the Kremlin and the White House. They bow down, without a will of their own, to the friend-or-foe formula and torture themselves with the fatal alternative: “rather Red than dead”, or else “rather dead than Red”. If the third World War does break out, then it is up to each one of us to behave as he thinks best. But as long as there is still peace, let him, too, labour with all his might to preserve it.

Millions of people in the West and in the East ask nothing else than to be allowed to live in peace. They hope and pray that their governments will not let the worst come to the worst. But often, lacking sufficient faith, they are too discouraged, too pusillanimous, to let the voice of their conscience speak out. They just let themselves be seduced over and over again by the voice of hatred, and they join in the chorus that calls the opponent a devil. Blind with rage, the anti-Communist faces the anti-Capitalist, who is equally blind with rage. If he can crush his opponent he is quite willing to accept the destruction of the whole world into the bargain. Hate breeds hate. Jesus did not teach only the love of one’s neighbour, charity in its best sense, but He also taught us that we must love our enemies. In hatred there is no chance to change the person we hate, in love there is always the possibility.

In the Rules of St. Benedict of Nursia there is the fine maxim: “odiat vitia, diligit fratres”, – that is to say, “let each monk hate the vices but love the brethren”. This saying may be embroidered upon. Am I to hate the St. Petersburg schoolboy because, by no fault or responsibility of his own, he has been brought up and educated entirely in the doctrine of dialectic materialism, which is foreign to me? It was entirely a matter of chance, a “geographical accident”, that he was born in another part of the world from myself! Only those who esteem man higher than the ideology that he defends, only those who help the child to preserve a chance of free self-determination, break through the Devil’s vicious circle that casts its grievous spell upon us. The spread of critical thinking among all peoples of the world may ultimately lead to the shattering of all those ideologies that attempt to divide mankind up according to the friend-or-foe formula. When we are threatened by a “closed” community, we must struggle to defend ourselves, but at the same time we must try by every means in our power to help to set up open and liberal social conditions throughout the world. Critical thinking makes a man hesitate to obey his emotions blindly, to allow himself to become an instrument of any ideology against which his conscience revolts. Reflection may appear to be a sign of weakness in view of the monster powers of today, but it is our very greatest strength. Surely a starving Indian or a Chinese rice-growing peasant driven to despair by poverty, you will say, is not helped by the philosophy of wonder? If he heard about it at all, would he not only be amazed, in his utter exhaustion, how easily certain people can look upon the wretched plight of the age? Do not let us be misled. The “furiously determined” solve the problems of the times just as little as do those who have grown deaf to them in the enjoyment and the abuse of freedom. Whoever commands me to hate people whom I do not even know, and who do not know me, must first of all stifle my questions about them. All those who are zealots of a closed ideology do not wish to believe that there are *humane humans* everywhere in the world, whose pure humanity, like uncoined gold, is older than the darkening ideology, which is only secondary. When man meets man,

cutting across the historical accident of language, religion, or political ideas, something new will result. The pre-requisite circumstances for this are largely given today; now it is only a matter of putting them into practice on a world-wide scale. Let us resolutely throw overboard all those arguments which seem so true, yet which poison our minds. Such as, for instance, that "East is East, and West is West, And never the twain shall meet", or that a Japanese will never really get on with a Frenchman. If they never get to know each other they cannot understand each other. And in our own country, has a Freethinker ever really understood a believing Protestant, a Catholic a Marxist, a Liberal a Racial fanatic? What prevents us from understanding one another is the *doctrines* by which we live, not the deep, ancient community of life itself. Or is it the shamefaced insight that the only reason we are doing so much for the "underdeveloped" peoples today is because the dangerous advance of Marxism and Leninism forces us to do so? That may be true in some cases, but is by no means the whole truth. Millions of freedom-loving people in the West wish, without any ulterior political motives, that everyone in the world should be helped, that the good things of Nature should be fairly distributed, that every child should enjoy the privilege of schooling, and that all should be citizens of liberty.

It was not Marxism that formulated the "Declaration of Human Rights" of 1776, or that gave birth to the ideals of the French Revolution, nor did it sponsor the drafting of the Atlantic Charter or the Declaration of the United Nations. The free world may let itself be jostled by Russia and China as regards its tactics; to build up a just order of free men everywhere in the world it needs only to put into practice the postulates of its own history.

The individual cannot treat with Kennedy or Khrushchev, or interfere in the military plans of the Powers. But each one of us is called upon to extend the domain of freedom, and each one of us has ways and means to do so. Here there is still an immense and in no wise exhausted reservoir in all the nations of the world. We all have many more friends than we are aware of. Since distances have shrunk, we have all become neighbours. These neighbours, far and near, belong to us and we to them. Let us help them whenever they need us, and let us hear them when they speak to us. Nobody is sufficient unto himself, he may always learn something from his neighbour; nobody is so poor that he is unable to give some of what he has.

Such a neighbour is the mountain people of distant Nepal. Let us make her people feel that their cares are our cares, that we are anxious to help them in any way we can. Without a single sidelong glance at possible business, possible profit and gain. Wherever a nation grows into freedom, wherever it shores up and secures this freedom in the economic sphere, the foundations on and from which we ourselves live are strengthened. Let us show them what we have, and let them show us what they have. The overwhelming majority of all mankind would rather be neither "Red" nor "dead". Most Governments arose in the days when "good comradeship" among all the peoples of the world was still a "consummation devoutly to be wished". Today this comradeship is burgeoning under incredible menaces into a promising reality. The struggle of this age needs every individual, his judgement, his co-operation, his sacrifices, great or small. This struggle is still in no wise decided, and it is just those who are firmly

settled on the shores of freedom that have no need to despair. The last great illusion is that the peoples of Asia neither understand nor desire freedom in our sense of the word, as we understand it. Truth, humanity, and liberty belong inseparably together. We ourselves must constantly bear this interdependence in mind. Man strives for freedom as a plant struggles towards the light. And only the man who is really free is able to fight clear of the ideologies that seek to enslave him. Man is spirit and his truth unfolds in a free mind. It is now a matter of fetching him home again from every form of estrangement, back to his own personal and interior realm of wonder and all-seeing love.

WALTER ROBERT CORTI

2 *Dhaulagiri, 8172 metres above sea-level.* The photograph was taken one cold evening in December from the north-east foot of the mountain. The insolation caused a cloud of immense size to form in the otherwise clear atmosphere. It rose a further 4000 metres above the summit into the sky, to a height of roughly 12,000 metres, which is more than twice as high as the highest cumulus clouds above the Alps. Does the giant not look just like a smoking volcano?

Dhaulagiri has the reputation of being, from the mountaineering point of view, one of the most difficult of the peaks that rise to 8000 metres. Although the ascent of this mountain had been attempted every year since 1953 by various expeditions, it was conquered only in the year 1960 by the Swiss expedition, headed by Max Eiselin. The approach and the transport of supplies for this expedition were facilitated by the use of the so-called "glacier aeroplane", employed for the first time in the Himalayas on this occasion. The pilot broke a world record with his landing on a glacier at an altitude of 5700 metres. In spite of the use of an aeroplane, this feat of mountaineering deserves admiration; a perpendicular wall of rock 300 metres high that had to be scaled at an altitude of 8000 metres gives some idea of the difficulties that faced the climbers. It took the mountaineers four hours' hard climbing to overcome this wall. However, on the 13th of May, six members of the expedition, including two Sherpas, stood on the proud summit. The second ascent by the same expedition took place two weeks later.



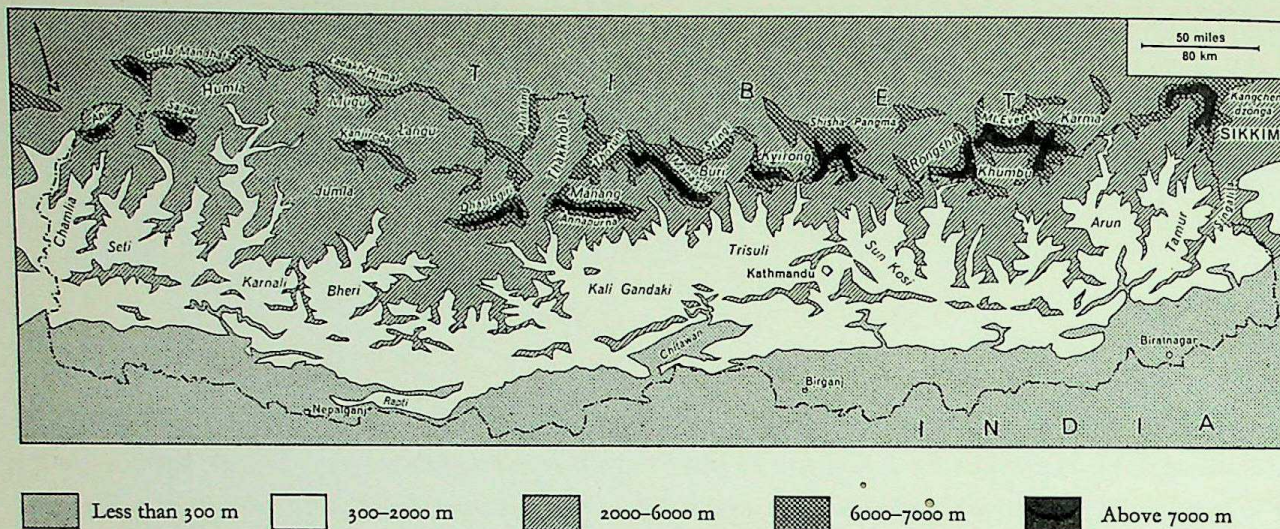
Nepal, the Kingdom in the Himalayas

Physical Features

The Himalayas, the highest chain of mountains in the world, separates tropical India from the central Asiatic plateau. It extends for a distance of over 2000 kilometres (about 1250 miles), running from Kashmir in the west to Burma in the east. And it is here that are found all the proud summits that rise to a height of over 8000 metres (or over 26,000 feet) on the earth's surface. It forms an almost impenetrable wall of mountains, breached at only very few places, on the frontier between Mongolian Asia and the Indian sub-continent to the south. On its southern slopes lies the kingdom of Nepal, an elongated rectangle with an area of roughly 141,000 square kilometres or c. 55,000 square miles, between latitude 80° and 88° E. Geographically, the degree of longitude—between 27° and 30° N.—corresponds approximately to that of Egypt, and if we except the differences of climate due to the altitude, the country would belong to the tropical to sub-tropical zone. But it is just these tremendous differences in altitude, together with the division of the year into a dry season and a rainy season, that are the cause of the extreme climatic contrasts in Nepal. Within a small compass, almost all the climatic zones of the earth are represented: tropical jungle in the Ganges plain, arctic desert wastes in the higher regions, and the arid zone of the Tibetan plateau.

The monsoon period normally lasts from June until about the end of September; the dry season is broken only by insignificant thunder-showers in January; and quite often even these do not materialize. The greater portion of Nepal lies, as has been said above, on the southern slopes of the Himalayan mountains. In the eastern part of the country, the Great Himalayas with Mount Everest, Makalu and Kangchendzönga form the natural boundary with Tibet. To the west of the meridian of Kathmandu, on the other hand, the Nepalese frontier runs along a mountain-range that extends to the north of the Himalayas, the Tibet marginal mountains on the edge of the main Tibetan plateau. Very peculiar, and also characteristic of Nepal, is the following fact: it is not the main Himalayan range that forms the watershed between the Tsangpo river-system and the Ganges system, but just this lower, Tibetan marginal range to the north (figs. 2 and 3). It is indeed unique for rivers that rise at the principal watershed afterwards to breach a far higher range, as is the case for most of the large rivers in Nepal.

The climatic zones of Nepal and the relief, as shown in the greatly simplified map in fig. 2, may be divided into seven natural topographical units clearly distinguished from each other. From the same

FIG. 2 *Hypsographic Map*

map it may be seen that the regions at elevations above 7000 metres occupy an insignificant area in comparison with the entire range of the Himalayas, and that they are arranged like narrow strips predominantly longitudinally, and the highest Himalayan chains are therefore not massive elevations, but narrow ridges.

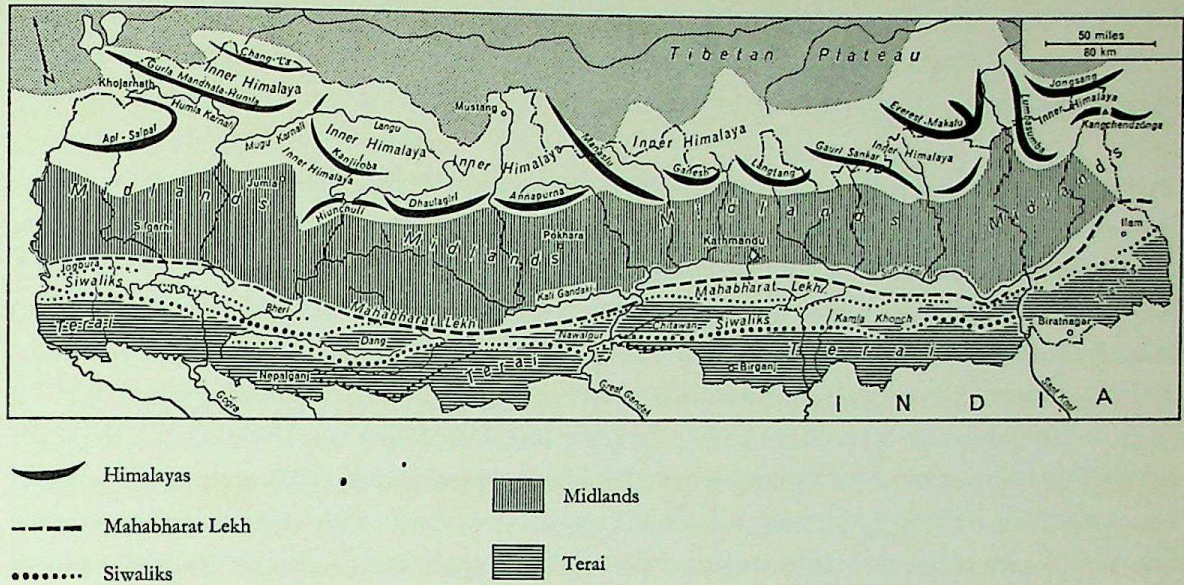
The elevations between 6000 and 7000 metres cover, it is true, larger areas, yet these zones also consist of chains of mountains (fig. 2). Clearly recognizable is the division into two ranges of high mountains extending from the meridian of Kathmandu towards the west.

The zone of elevation between 2000 and 6000 metres on the southern flank of the principal chain is extraordinarily narrow (fig. 2). South of Annapurna and Manaslu it even disappears almost entirely, and here is found the greatest extremes of altitude in the world in the shortest horizontal distance (Plates 1, 4, 6, and 7).

Finally, there rises to the south of the Nepal Midlands another mountain-chain: the Mahabharat Lekh (fig. 3).

Whoever travels through Nepal from south to north crosses the seven zones, some of which are enumerated above, into which Nature herself has divided the country, in the following order: 1. the Terai, 2. the Siwalik hills, 3. the Mahabharat Lekh, 4. the Nepal Midlands, 5. the Himalayas, 6. the Inner Himalayas, 7. the Tibetan marginal mountains.

THE TERAI. A strip or narrow tract of level alluvial terrain, only 200 metres above sea-level, situated between the Indian frontier and the foothills. It is Nepal's modest share of the Ganges plain, nowhere more than 45 kilometres in width, and to the east of the Narayani river even completely interrupted for a distance of about 65 kilometres. Here the Indian frontier runs along the southernmost crest of the Siwalik hills (fig. 3).

FIG. 3 *The Natural Regions*

The climate of the Terai is unhealthy, a malarial hell! It is nevertheless densely populated, at least in the southern part. The northern part is covered with marshes and jungles. There are a few scattered villages in this wilderness, and the soil has been wrested from the forests by clearing it in dogged labour. The houses often stand upon piles as a protection against floods and wild animals, for this region is the home of tigers and leopards, of bears, elephants, buffaloes and rhinoceroses, and the rivers are infested with scaly-skinned crocodiles. Cobras and vipers, and also scorpions, make the region even more terrible. It is therefore understandable that the peasants from the Nepal Midlands shun this region, at least during the monsoon period. In the dry winter season, on the other hand, they throng the few trade routes, taking the produce of their farms to the big marts along the Indian border (fig. 17).

THE SIWALIK ZONE. It comprises the southernmost mountains of the Himalayan system. The hills rise straight out of the Ganges plain without any foothills. Geologically it corresponds roughly to the Molasse zone along the Alpine margin (Rigi and Speer, Switzerland). Like the latter, the Siwalik zone is characterized outwardly by a marked hogback landscape, caused by rock-formations that are similar to Molasse, composed of alternating hard and soft strata. The highest summits of the Siwalik chain rise to about 2000 metres, though on an average they are only about 1500 metres in height. It is, however, not an entirely independent range: in some areas the Mahabharat chain, which lies behind it to the north, merges directly into the Siwalik zone. In other areas, however, the two ranges are separated by wide valleys, so-called *duns* (fig. 3). The biggest *dun*-valleys are those of Rapti, Chitawan, and Dang. The Siwalik zone in parts exhibits a series or sequence of isoclinal chains one behind the other.

Primeval forests cover the wild, rugged landscape, and from an aeroplane the finely ramified V-valleys with their steep, though not high, flanks are easily recognized. No settlements are found there; for during the great dry period every stream runs dry, and only the principal rivers in the *dum*-valleys still have a little water.

THE MAHABHARAT LEKH (Lekh = mountains). A striking chain of mountains, running from west to east across almost the entire country (fig. 3). With its summits rising to as much as 3000 metres, it forms a natural barrier or defensive wall towards the south for the Nepal Midlands. It has protected the Nepalese mountain people from the great war-like conflicts in the Indian low-lying plain and thus created the necessary conditions for a characteristic cultural and political development. It is partly due to this defensive wall that the countless works of art in Nepal have been preserved for posterity.

Even on our small-scale hypsometric map in fig. 2, the Mahabharat Lekh may be clearly distinguished; it is true, however, that this range has several "saddles", or low passes, and it is also intersected by transverse rivers (Plate 47). Its relief is steep and jagged. In contrast to the hogback landscape of the Siwalik zone, the weathered forms are here created only by regular erosion; for the Mahabharat Lekh in general comprises only little-differentiated and rather uniform crystalline rocks, some of which are granites. The valley-floors of the transversal gorges, in which the great Nepalese rivers flow out into the Ganges plain, lie at an elevation of only 200–400 metres above sea-level. The differences in altitude are therefore enormous; the gorges, however, are of a wild and enchanting beauty!

The Mahabharat Lekh country is steep. It is therefore not in general densely populated. The settlements grow sparser with increasing altitude and above 2000 metres there are none at all. Here there are only dense woods of oak and rhododendron (Plates 1, 51, 54). At lower altitudes, however, on ridge-depressions and saddles, across which the important trade-routes lead into the hinterland, some big towns have even sprung up. Tansing and Dhankuta, for instance, are today important trading-places; in earlier times, however, they guarded the entrances to the Nepal Midlands.

THE NEPAL MIDLANDS. This region is the heart of the country, protected in the south by the Mahabharat Lekh, in the north by the giants of the High Himalayas. The average breadth between these two ramparts is about 60–100 kilometres; from the Indian Kumaon district to the Indian Himalayan state of Sikkim, it is about 900 kilometres in length.

The Midlands are clearly defined: there are elevations of 600–2000 metres, the contours are soft and gentle. The Midlands are cut into nine natural divisions by the wide valleys of the large transverse rivers: Chamlia, Seti, Karnali, Bheri, Kali Gandaki, Trisuli, Sun Kosi, Arun and Tamur (figs. 2 and 3).

In the west and in the east, the Midlands are interrupted by higher-lying zones, which, for instance between the Kali Gandaki river and the Seti-Ganga, a tributary of the Karnali, rise to a height of 4000 metres. It is the pre-Himalayan zone, spurs thrusting forward southwards in the catchment-area of the Karnali river and which, from the point of view of landscape, is clearly distinguished from the

rest of the Midlands; it is a transition to the valleys of the Inner Himalayas described below. In eastern Nepal are situated the higher zones on the Mount Everest meridian and on that of Kangchendzönga; they are inhabited principally by the Sherpas. Otherwise, however, the tribes of the old original population are still predominant in the Midlands, and they constitute the major part of the total population of Nepal, which numbers 8.4 millions.

The Midland regions, with an elevation of 600–2000 metres above sea-level, obviously not only provide an agreeable climate for the inhabitants, but they also favour farming and agriculture. All cereals, every kind of fruit and vegetable of the sub-tropical to the temperate zones, would thrive here; most of them, however, are unknown in this region. Hitherto only the valley of Kathmandu, the capital, has actually taken advantage of the varied possibilities of agriculture and horticulture, and even these depend essentially on the great fertility of the soil in the bed of a lake that has dried up. On the other hand, in the rest of the Midlands, where the differences of altitude are greater (Plate 20), farming has developed differently according to the elevation, and this arrangement, again, has decisively influenced settlement by the various groups of the population (fig. 10). People settle for preference wherever their favourite foods grow best.

THE HIMALAYAS. Abrupt and gigantic, as is shown in Plates 1 and 3–7, this chain of mountains towers up out of the Midlands, especially in central Nepal. But even in the transverse gorges of the Himalayas the horizontal distance between the low-lying valley-floors and the highest summits is very short (Plates 44 and 45). These gorges of the great rivers, as has already been said, are among the deepest “cuttings” in the world. The deepest gorges in the Swiss Alps are nothing in comparison. A slight idea of the breath-taking depth of these abrupt clefts may be obtained, perhaps, if it is borne in mind that the summit of Annapurna, for example, rising to an altitude of 8078 metres, and that of Dhaulagiri, with its height of 8172 metres, are scarcely 35 kilometres apart as the crow flies. Between these mountains flows the Kali Gandaki river, only 1200 metres above sea-level at Dana. The summits of Manaslu (8125 metres) and of Annapurna II (7937 metres) lie about the same distance from each other; and between them the Marsyandi river has eroded for itself a gorge down to an elevation of 1400 metres. For anyone who has not seen it with his own eyes, it must seem quite incredible that these rivers are the sole traffic arteries between the Midlands and the Inner Himalayas, that is to say, between one part of Nepal and another. The transverse rivers divide the principal chain of the Himalayas into striking massifs or groups, whose precipices rise above the gentler contours of the base-formations like “uplift islands” (Plates 4, 5, and 6).

On the southern slopes of the Himalayas, settlements are in general found only up to 2400 metres (figs. 12 and 13). Above this height, and up to about 3300 and even 4000 metres, there stretches a belt of the densest primeval forest in Nepal, with a highly heterogeneous composition: luxuriant, impenetrable underwood and magnificent trees of gigantic size, especially numerous being the famous Himalayan cedars (fig. 6). Above the primeval forests lie the alpine pastures, extending up to the snow-line;

the latter, however, is subject to great local variations, ranging from 4500 metres to 6000 metres. The alpine pastures form a relatively broad base, from which the actual high mountains rise steeply.

THE INNER HIMALAYAS. This is the name given to the valleys to the north of the principal chain. Here the rivers have been able to erode wide valleys in the relatively soft sediments between the gneisses of the principal chain and the granite of the Tibetan marginal mountains (figs. 7 and 9). These valleys naturally run from west to east, i. e. parallel to the strike (or trend) of the mountains. Only the Thakkhola region forms an exception, owing its origin to a transverse fault trough or rift (figs. 2 and 3) similar to the rift-valley of the Upper Rhine, which collapsed between the Black Forest and the Vosges mountains. The large valleys of the Inner Himalayas, from west to east, are called: Humla (Plate 30), Mugu, Langu, Thakkhola (Plates 33-41), Manang (Plates 28 and 29), Kutang (Plate 8), Kyirong, Rongshar, Khumbu and Karma. These are the real "high mountain valleys" of Nepal, surrounded on all sides as they are by ice-clad giants, some of whose glaciers extend right down into the valley-floors (Plate 28). As regards climate, these valleys, with elevations ranging between 2400 and more than 5000 metres above sea-level, form a transitional zone between the north Indian monsoon region and the arid high plateaux of Tibet. The vegetation is therefore by no means uniform; on the contrary, it varies between humid and rain-sodden jungles in the south to steppes and even mountain desert in the north! The valley-systems of the Inner Himalayas contain villages and towns, some of which are large and well-to-do; the inhabitants are of Tibetan origin.

THE TIBETAN MARGINAL MOUNTAINS. I call the mountains by this name because they mark the southern margin of the Tibet plateau. They are less high than the principal Himalayan range; their summits attain a height of 6000-7000 metres at the most. And yet they are important from more than one point of view: not only do they form, as we have already explained, the chief watershed between the Ganges in India and the Tsangpo in Tibet; they also separate the complicated structure of the Himalayas from the flat or undulating table-land of the Tibet plateau (fig. 7).

The contours of the mountains are in general gentle, and in consequence of the dry climate they are covered with only scanty glaciers. Genuine valley-glaciers are entirely lacking (Plates 39, 33 and 37). Another consequence of the arid climate is the screes at the foot of the mountains. The few channels fed by the small glaciers have not the force to carry away the débris. The latter seems especially thick on account of level deposits of the youngest geological ages. Only the principal rivers were able to erode cañon-like valleys in it; in vast areas, however, the old terraced landscape has remained (Plate 39). Geologically, Nepal has no share in the Tibet plateau itself.

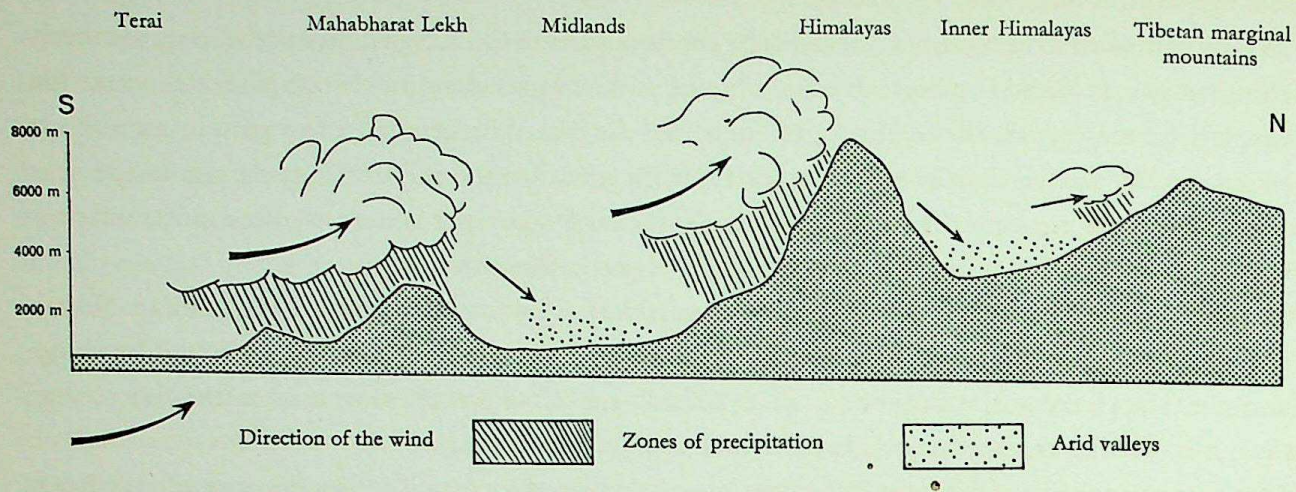
The Himalayas as a Meteorological Limit

The geographical situation of Nepal might be compared with that of the southern Mediterranean countries; its climate, however, corresponds to that of those regions during only one part of the year. One can, indeed, scarcely speak of a Nepalese climate, for the climatic contrasts are too great in consequence of the marked vertical divisions of the country. In the lowlands and the Midlands the temperatures are higher and more constant. The further north one penetrates into the Himalayas, the more obvious do the seasonal differences become, and the climate becomes definitely continental. For instance, Kathmandu, at 1400 metres above sea-level, has a relatively even curve of temperature, a mean January temperature of 10°C . ($= 50^{\circ}\text{F}$.) and a mean July temperature of 25°C . ($= 77^{\circ}\text{F}$.) The maximum and minimum temperatures ($37^{\circ}\text{C} = 98.6^{\circ}\text{F}$. and $-2.8^{\circ}\text{C} = 27^{\circ}\text{F}$.) registered in the last 30 years do not contradict the impression we receive of an equable climate.

On account of their altitude, the Himalayas have a profound influence on the climate and weather of Nepal; but it is not only the altitude of a mountain-range that is decisive for the climatic zone given by the geographical latitude and the predominant winds, but above all its situation and strike direction. In general the climate of southern Asia is determined by the land-masses on the one hand and by the Indian Ocean on the other. In the southern part of the continent, the insolation is so strong that even the predominant seasonal winds are affected by it. In summer, the sun warms the thin air above the Tibet plateau very strongly; for neither haze nor clouds impede its scorching rays. The specific weight of the air thus becomes lighter and the air rises. In Tibet and in the inner-Asiatic desert basins intense low-pressure is the result, which causes air to be drawn in from all sides. In Nepal, on the southern margin of this area of low pressure, southerly winds therefore prevail in the summer months. These winds from the cooler ocean are moist and vapour-laden. Above the land they ascend, owing first to insolation and convection, later to the Himalayas; the air thereby grows cooler, its vapour condenses, and rain pours down from the clouds: this is the monsoon period! (Fig. 4.)

In winter it is a different story. Then the land-masses cool off more than do the oceans, especially in the high mountains, where the air is pure and rarified, and where the protective layer of clouds is lacking. This cooled air becomes heavy and escapes across the Himalayas and through its valleys towards the south. This air is dry, especially in Nepal, where the effect of the descending wind lowers the relative humidity still further. For eight months on end these north winds cause the winter dryness.

Every mountain-range is a meteorological limit, i.e. a boundary between climatic regions; but the differences between the Alps and the Himalayas is fundamental in this respect. The Alps are a symmetrical meteorological limit: either side may receive rain when it lies on the luff or weather side (where the winds flow up the slope). Both sides also lie within the sphere of influence of the dry descending winds, when the direction of the wind causes them to lie on the lee side (back or sheltered side). The Swiss Föhn wind, for instance, is well known, with its heavy rain on the southern slopes and the dry warmth in the northern valleys. The Himalayas, on the contrary, are a one-sided meteorological limit, because, situated

FIG. 4 *The Principal Zones of Precipitation*

on the margin of a huge land-mass, they receive moisture from one side only, namely, from the south. Seasonal rainfall is therefore encountered only on their southern flanks.

In the Indian lowlands, the temporal and local demarcation of the monsoon is clear: in the early summer it moves slowly from southern India towards the north and generally reaches the Nepalese Terai at the end of May or the beginning of June. In the proximity of the mountains, however, local factors affect the seasonal progress of the weather. On the southern flanks of the Mahabharat Lekh and of the High Himalayas more especially, the insolation is stronger and causes local ascending winds. These lead to violent thunderstorms long before the arrival of the actual monsoon front. This may, of course, be especially clearly observed on the southern flanks of the Annapurna chain, with its abrupt rise from the lowland plains to an altitude of 8000 metres above sea-level. With extraordinary regularity, cumulus clouds gather there from March onwards every afternoon, and they discharge towards evening in severe thunderstorms, often accompanied by hail, right down to the lowlands. The next morning the whole pageant is over, and the mountains gleam in the freshly-fallen hail, which often covers the ground knee-deep.

Towards the summer the storms begin earlier, at noon already, and they often have no time to break before dawn. Now the rain-free periods grow shorter and shorter, and gradually the storms merge into the monsoon. If we consider only the weather-cycle, therefore, it is difficult to distinguish between the stormy pre-monsoon phase and the actual monsoon season. There is, however, one unmistakable and easily recognized criterium: during the thunderstorm the wind blows from the south-west, the clouds sail away towards the north-east, often accompanied by gales. The monsoon, on the contrary, brings precipitation from the south-east, from the Bay of Bengal. This direction of the wind is clearly defined, it is true, but the change from the blustering south-west thunderstorm to the more reliable rain from

the south-east does not occur only once. At first the monsoon is frequently interrupted by thunderstorms, until it is finally able to gain the upper hand.

It is only natural that the monsoon should carry the day earlier in south Nepal than in the more northerly areas, just as east Nepal is subject to have it longer and more severely. In central Nepal the monsoon lasts on an average from the beginning of June until the end of September; these periods are subject to considerable fluctuations, however, especially with regard to the end of the monsoon. In the year 1955, for instance, the summer monsoon in east Nepal hardly seemed to come to an end at all, and protracted periods of bad weather merged gradually with the winter monsoon.

The monsoon season in Nepal is, by the way, not a period of lasting and uninterrupted rainfall. Nearly every day the sun breaks through the clouds for at least a short while, and the rain falls mainly during the night. The Himalayas, it must be admitted, are not visible, but Nature compensates for this in many ways: now the meadows become green, myriad wild flowers burst into bloom, the rice-peasants toil in the sprouting fields, and their merry singing re-echoes far and wide. The clouds sail along overhead above this gay, re-awakening life and create ever-changing and impressive scenes.

In Nepal, therefore, the monsoon signifies the beginning of the agricultural year with its manifold tasks; on the other hand, it puts an abrupt end to all communications in the interior of the country. Now the brooks begin to swell, and the rivers in spate can be crossed by only a few bridges. The dug-out canoes in which the Nepalese people cross the rivers where there is no bridge for them to cross by, are put out of action, for the rapids are far too dangerous. A strange thing may perhaps be mentioned in this connection: the dug-outs are not always taken to safety by being hauled up on dry land. Frequently they are deliberately submerged in the waters of the rivers and anchored with heavy stones. This seems to the ferry-man to be safer than pulling them up, for one never knows whether the river will not rise so much during the rainy season that it floods the whole valley-bottom. Indeed, the water carried by the large rivers may rise to sixty times the normal level during the dry period (i. e. low-water stage). These immense quantities of water are not due to the monsoon rains alone, of course, but largely also to the melting of the snow in the high mountains.

Besides the rivers, there is also another reason for avoiding travelling in Nepal during the rainy season: the leeches! These small leeches, which are some 3 centimetres or just over one inch long—in the Nepalese language they are known as *tsugas*—cling in innumerable numbers to the grass, bushes and trees. They reach out with a surprising instinct towards passing human beings and animals; they even drop from the trees on to their victims and immediately attach themselves firmly to their skin. They find their way through the tiniest openings, for instance, through the eyelets of laced boots and shoes, and with their tripartite suckers they quickly pierce a blood-vessel, especially on the ankles, between the toes, or at other sensitive spots. A fluid that they secrete prevents the blood from coagulating, and when they have sucked their fill they fall off, but the incision continues to bleed for hours. They cannot be removed by force; if they are pulled off, the suckers remain in the wound and a few days later itching sores appear, which are slow to heal. Anyone who has not experienced it himself can scarcely imagine what a plague

these *tsugas* are for man and beast. For hours on end you march through the humid forests, and when you have finally pitched your tent in the evening and undressed, your clothes stick to your skin like wet rags, and your underwear and socks are soaked with blood that has caked and stiffened.

Swollen rivers and landslides, destroyed bridges and leeches, these are the gifts that the Nepal summer monsoon has in store for those who would like to explore the country. The winter monsoon, on the other hand, is harmless in comparison: short, thundery showers, which, in central Nepal for instance, occur regularly around the new year after a fine autumn. The temperature drops suddenly, and the high mountains, which had lost most of their snow during the sunny autumn, and which were covered with bare patches, now receive a winter blanket of snow. This descends to about 2800 metres in eastern Nepal but to about 2000 metres in western Nepal.

Hitherto the rainfall has scarcely been registered in Nepal. The few available data, however, confirm my observations concerning the monsoon on the southern flank of the mountains. Biratnagar in the Terai registers 150 centimetres, Darjeeling (outside Nepal to the east) on the Mahabharat chain an average of 300 centimetres of precipitation. In Kathmandu 170 centimetres of rainfall have been registered, and 250 centimetres in Godavari, a few kilometres to the south of Kathmandu in the Mahabharat Lekh.

These comparisons make clear the situation of the Midlands in the lee, or shelter, of the Mahabharat chain. On the southern flank of the Himalayas the amount of precipitation again increases considerably, though it is actually surprisingly low in the high mountains themselves. Thus, only 39 centimetres were registered, for instance, between April and November on the Khumbu glacier on Mount Everest; and this is probably the approximate annual total. Only 40 kilometres further south, in the Dudh Kosi valley, however, the rainfall rises to 166 centimetres! (Fig. 4.)

In the main, the amount of precipitation is greater in the east of the country than in the west; the monsoon begins earlier and withdraws later in the east. The difference between the two parts of the country is considerable. At Morang, for example, in the eastern Nepalese Terai, about 200 centimetres of rain falls, at Bilauri (western Terai) on the other hand, only 100 centimetres. The reason for this is to be sought in the fact that eastern Nepal lies closer to the Bay of Bengal, above which the summer monsoon becomes saturated with moisture.

In the Midlands and in some of the Himalayan valleys there is yet another local differentiation: the dry valleys! They are deep, extensive, desert-like valley "cuttings", and an interesting phenomenon is the cause of their origin: by reason of high solar radiation the surrounding mountains become greatly heated and suck in air. In this way an extraordinarily dry descending wind is formed above the valleys, which is able to dissolve to a great extent the layer of cloud above the valleys. This phenomenon is especially pronounced in western Nepal, in the middle section of the Karnali valley (e.g. at Thibru). Here, at an altitude of 3000 metres, montane moist temperate forests are found on the hillsides, the trees of which are covered with lichens and mosses. The valley-floor, on the other hand, is waste land, a desert, in which grow only sparse cacti and mimosas, such as one also encounters, according to Abbé Pierre

Bordet, in the Sahara, for instance. When flying above the clouds, therefore, one may recognize the courses of the principal rivers from a great distance, for they are cloudless and form elaborate and bizarre patterns in the otherwise compact layer of cloud. This same phenomenon is also met with in the Inner Himalayas. (Fig. 6.) In the Thakkhola region, for instance, at altitudes between 3500 and 3900 metres, both slopes of the valley are covered with coniferous forest, which is, however, sparse; but here, too, the valley-floor is a steppe-like desert and partly even real desert.

The northern boundary of the monsoon region is peculiar and extremely interesting. It is clearly defined, with no gradual transition of the vegetation. Only a few kilometres separate the rainy, moist mountain-forests of the monsoon region from the steppes and wastes situated a little further towards the north. On the other hand, this boundary is subject to great local variation. In the transverse valleys of the Himalayas, the monsoon penetrates with immense force far towards the north. For this reason the valleys of the Inner Himalayas which are situated to the north of the transverse gorges (fig. 3), are in part also affected by the monsoon.

A southward march from the Tibet plateau through one of these Himalayan valleys during the monsoon season provides magnificent scenes: on the northern side one still enjoys blue skies and an agreeable temperature, which attains the frost-limit only at an altitude of about 6000 metres. The black clouds pile up above the Himalayas, and down in the valley it looks as if they were rolling towards the north like an immense avalanche. But it only appears to be so; in actual fact, the clouds do not change their position, even though a never-ending hurricane is sweeping through the valleys. At night the spectacle is even more breath-taking: ceaselessly the flashes of lightning pierce the clouds, the thunder reverberates and grumbles, distant and threatening. The violent gusts of wind carry showers of drizzling rain for kilometres towards the north, and the traveller becomes wet through long before he plunges into the clouds. Then suddenly the tropical rain begins to fall, and at the same time the vegetation changes: ferns and bamboo are all around, and the trees of the primeval forest are festooned with lichens. The monsoon probably does not affect extremely high altitudes; presumably a north-west current prevails all the year round above 7000 metres. The summit of Mount Everest is therefore always black and covered with only thin patches of snow. (Plate 70.)

The low precipitation in the high mountains has the effect of making the glaciers in the Himalayas much less vast than one might expect them to be. This phenomenon, however, is not due entirely to the low precipitation, but is owing above all to the special relief: large firn basins (last year's snow, or *névé*), which might serve as accumulators, are largely lacking, for at this high altitude there are practically only steep precipices. The glaciers are therefore fed primarily by avalanches. As in the Swiss Alps, these glaciers are retreating. Only in a few areas, to the north of Manaslu for instance, could an advance be observed. There several tongues of large valley glaciers are flowing over their old morains, some of which were already overgrown with straggling mountain-pines.

There is, however, a great difference in the way in which the glaciers are formed on the southern slopes of the Himalayas and on their northern flanks. From the climatological standpoint, the southern flank

is favoured by its monsoon precipitations, especially where the principal chain rises direct from the Nepal Midlands (e.g. Annapurna). The steep precipices, however, which fall abruptly to sub-tropical zones make it impossible for long valley glaciers to form; for at altitudes lower than 3000 metres they would rapidly melt away. On the northern side, the case is very different; the wide valleys and expanses between 3500 metres and 5000 metres favour long valley glaciers. Here, however, there is not enough rain. The longest glaciers are found, therefore, only in those areas where the precipitation and the terrain clearly favour the formation of glaciers, as, for instance, in the Khumbu area. I found the biggest valley glacier, 25 kilometres in length, in the Langtang valley (Langtang glacier). Other large glaciers are the Ngojamba glacier to the south of Cho Oyu in the Khumbu region (24 kilometres) and the Kangchendzönga glacier (20 kilometres). Understandably, the longest glaciers are in eastern Nepal, where the precipitation is greatest; but even they do not by any means attain the length of the Aletsch glacier in the Bernese Oberland, which is 40 kilometres long. Many of them are far from impressive. They are almost smothered in their own morainic débris. The speed of flow of the Khumbu glacier was measured and found to be only 50 metres a year at the optimum point!

The study of the limits of perpetual snow, of vegetation, and of settlement yields interesting results. One would expect them to grow lower towards the north, with its colder climate. Yet surprisingly this is not so. The lowest line of perpetual snow was found on Rupina La (Gurkha-Himal) at an altitude of 4500 metres. On the same meridian, only 20 kilometres further north, at Sama (Plate 8), and especially near the Gya-Pass, there are montane woods at this altitude. Mountains with an elevation of 5800 metres are here still completely free of snow and have no glaciers.

Still more surprising is the fact that the limits of settlement grow higher towards the north. The highest villages of the Gurungs on the southern flank of Annapurna (e.g. Siklis, Plate 14) are situated at an altitude of 2200 metres, just at the lowest limit of the Himalayan forest. On the same meridian, a mere 30 kilometres further north, on the northern flank of Annapurna, we find the important town of Manang at an altitude of 3800 metres above sea-level. The Thamangs on the southern flank of Ganesh-Himal do not settle above 2400 metres (Plate 20). A number of fair-sized villages lie scattered between 3000 metres and 3600 metres on the upper course of the Chhokang-Chu river, on the northern side of the same mountain. Gurja, the highest-lying village on the southern flank of the Dhaulagiri group (Plate 1) lies only 2200 metres above sea-level. In the Langu basin, on the other hand, to the north of Dhaulagiri, we find what are perhaps the highest permanent settlements anywhere in Asia: barley and potatoes grow at Phopagaon at an altitude of 4300 metres above sea-level.

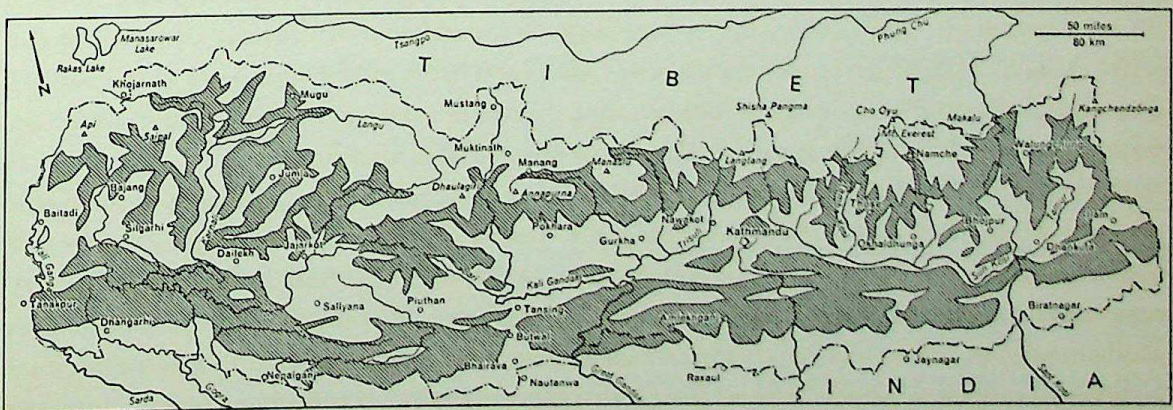
In the valleys of the Inner Himalayas the climate is more agreeable, in spite of the lower mean temperatures, than on the southern flank. Manang, for instance (Plates 28 and 29), with its bitterly cold winter nights, has certainly a considerably lower mean temperature than the same altitude on the southern flank of Annapurna. But the sun frequently shines, it is warmer in the Manang valley than on the southern slope of Annapurna, which lies for long periods of the year beneath a dense layer of cloud and is subjected to violent thunder-storms. That is also the reason why no agricultural produce grows on

the southern flank of the Annapurna chain at an altitude of 3800 metres. The climate in the summer months is too damp even for maize and more especially, of course, for potatoes; Manang, on the contrary, is positively famous for its potatoes, which are grown and gathered up to 4000 metres above sea-level. On the other hand, the higher altitudes on the southern flanks, with a climate that is perfectly suited to the growth of grass, is predestined for cattle-breeding and dairy-farming. In actual fact, even water-buffalo are sent up, for instance from Ghanpokhara, to graze on alpine pastures very high up; this again, suggests a mild and equable climate.

Extremes of Vegetation

It is easy to understand that Nepal, which, with its topographical extremes, comprises almost all the climatic zones in the world, is also unrivalled for the variety of its vegetation. At the same time, of course, man has here, as elsewhere, definitely influenced the vegetation. The map showing the forest cover (fig. 5) exhibits an entirely irregular distribution of the forests. First there is the clearly defined belt in the south of the country, covering the northern Terai, the Siwalik zone, and parts of the Mahabharat Lekh. It is about 40 kilometres broad and 800 kilometres long, a compactly wooded tract with an area of roughly 32,000 square kilometres, that is to say, more than half the size of Switzerland. The northern belt of woodlands, on the other hand, the Himalayan forest, does not form compact woodlands; its fine ramifications cover the heights and valleys of the Himalayas and in parts extends far towards the north (fig. 5). The Himalayan forest is probably somewhat smaller than the Terai forest; together, however, they cover a good quarter of Nepal. From an economic point of view, these forests may one day become of considerable importance. At present, however, the timber is being senselessly and carelessly cut down, above all by the licensed Indian so-called "contractors". This is all the more

FIG. 5 *Map of the Forest Cover*

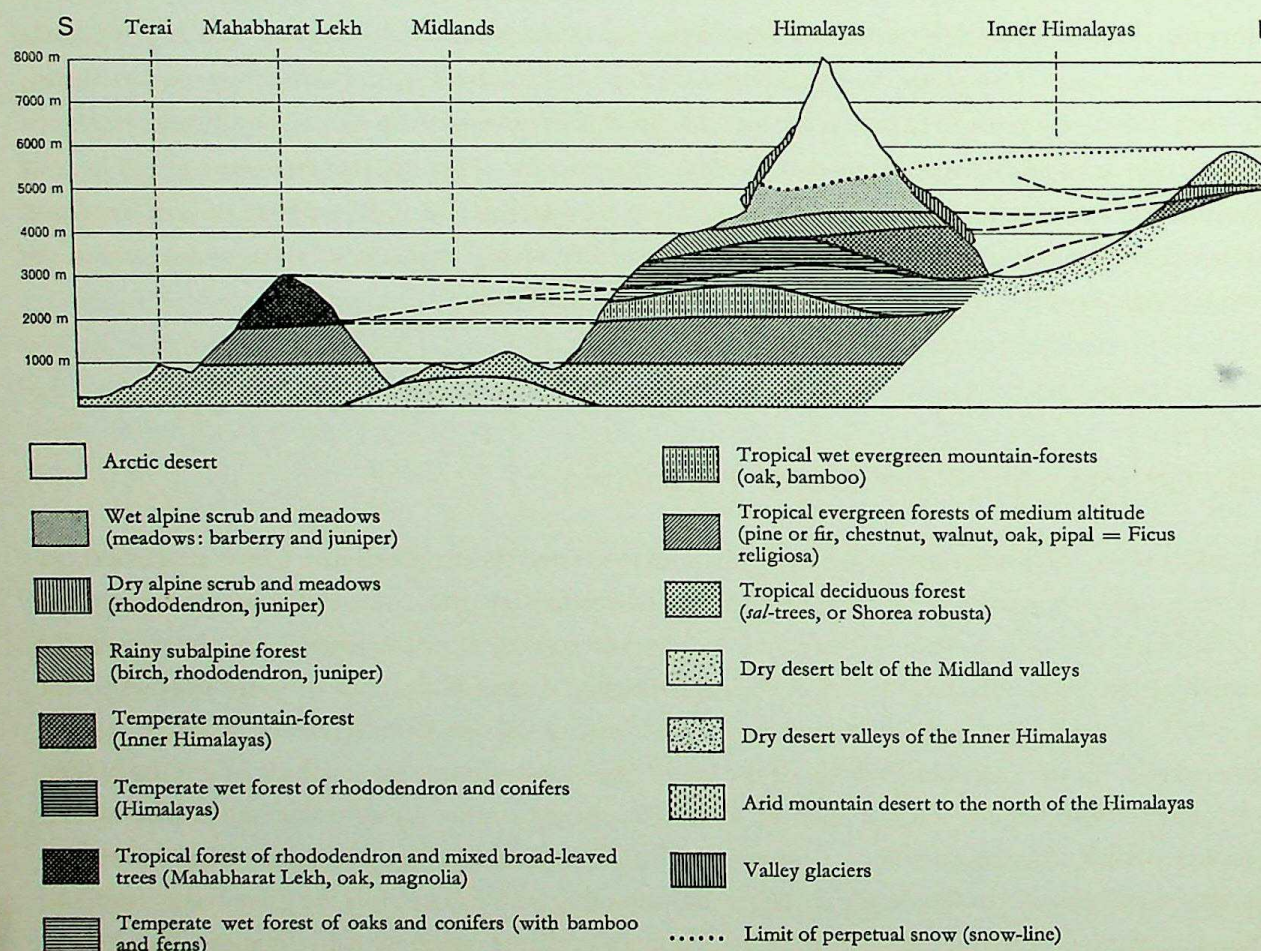


serious because the greater part of the young forest is being destroyed by the cattle. The result is devastating soil erosion, landslides and floods.

These two forest zones used undoubtedly once to be connected, and the transition from one zone of vegetation to the other took place gradually over the entire Midlands. With the increase of the population in the Midlands, this transitional zone finally fell victim to the clearance of woodlands for arable farming, and today the southern and the northern forests are composed of entirely different elements. For the soil is different in the two zones, the altitude is different, and the precipitation is distributed differently.

The Terai jungle forests are famous for their *sal*-trees (*Shorea robusta*) and for their oak-trees. Towards the Mahabharat chain there are extensive rhododendron woods. (Plates 1, 51 and 54.) This southern jungle in the Terai and in the Siwalik zone is not especially dense; there is no brushwood or ground vegetation. Especially in the Siwalik hills, the soil is too young; it contains a great deal of rubble on the

FIG. 6 Diagram Chart of the Cross-section of the Vegetation



surface and hardly any humus. Not until the Mahabharat Lekh is reached does underwood appear, and even this is principally above 2000 metres.

The northern forest, on the contrary, possesses exceptionally dense undergrowth. Away from the trails, every step must be cleared and hacked away with the Nepalese bush-knife, the *kbukri*. Even the smaller pathways have to be cut out of the thickets afresh each year, because the underwood grows so rapidly here, especially the bamboo. The Himalayan forest extends from about 2000 metres to the timber-line at 3900 metres (fig. 6). In some valleys there is even a compact covering of primeval forest down almost as far as 1000 metres, especially on the very steep southern flanks of Annapurna and Dhaulagiri, but also in the east, to the south of Makalu. Evergreen mountain forests of deciduous trees grow up to 3000 metres and above this come the coniferous forests up to 3700 metres: magnificent firs, larches, and above all, the famous Himalayan cedars. Above that, i. e. from about 3500–4000 metres, rhododendrons are again predominant, but here they are only bushes at most five metres, or some 15 feet, in height. The bamboo is an amazing “gadabout”; it is found from valley-floors at an altitude of 1000 metres almost up to the timber-line.

The altitudes shown in the profile-diagram (fig. 6) show that the vegetation is distributed according above all to the altitude, though local factors sometimes cause considerable divergence. But in general the limits between the various zones of vegetation do not run horizontally, but rather rise—as has already been explained—from south to north. Besides the differences in vegetation due to the altitude, however, there may also be clearly seen those that run from east to west. They are due especially to the heavier precipitation in the eastern part of the country. Thus, for example, the most westerly of the Himalayan larches (*Larix Griffithii*) are found on the meridian of mid-Nepal, especially on the upper course of the Buri Gandaki river, to the north of Ganesh-Himal (cp. relief-map).

The Orogenesis of the Nepal Himalayas

The highest mountains in the world have at all times interested the peoples living within range of them. To the people who gazed at them in awe from a respectful distance, the ice-clad giants seemed unapproachable and even hostile. Mysterious, too, and therefore left to the spirits! For this reason the Himalayas are frequently referred to in the mythology and the place-names of those peoples as the throne of the gods. The autochthonous, or native, name of Mount Everest, for instance, (Plate 70), *Chomolongma*, means “mother-goddess of the land”. The idea of immense treasures said to be hidden away inside those huge masses of rock is, of course, closely connected with this belief. The mental association with a bestower of food is obviously founded on experience; during the long dry season the waters in the north Indian lowlands and in the adjoining hills dry up; but the great rivers from the snow-covered mountains never cease to provide the water that is necessary for irrigation. This know-

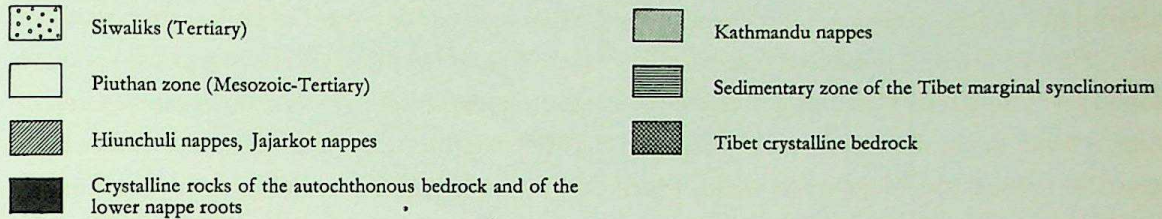
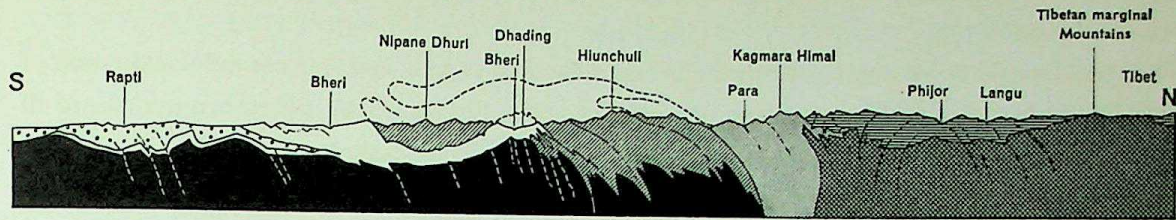
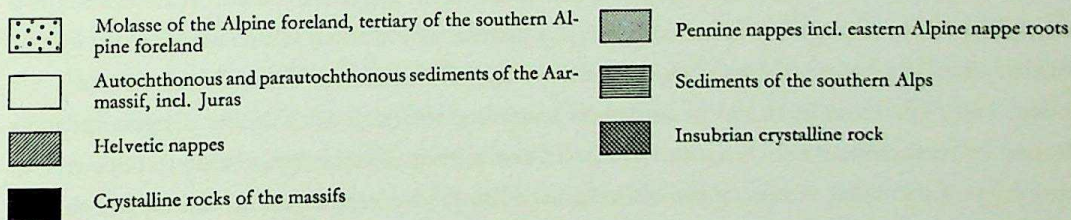
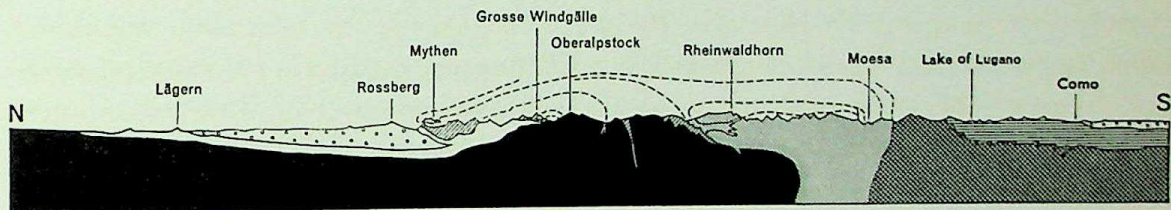
edge also finds expression in the place-names; Annapurna, for instance, might be rendered by "dispenser of food".

The Himalayas have long since cast their spell on naturalists as well, and that not only on account of their height, but above all because their network of rivers is fundamentally different from those of all other mountains. The highest mountain-chain is not, as has already been stated, at the same time the principal watershed between the Tsangpo in Tibet and the Ganges in India.

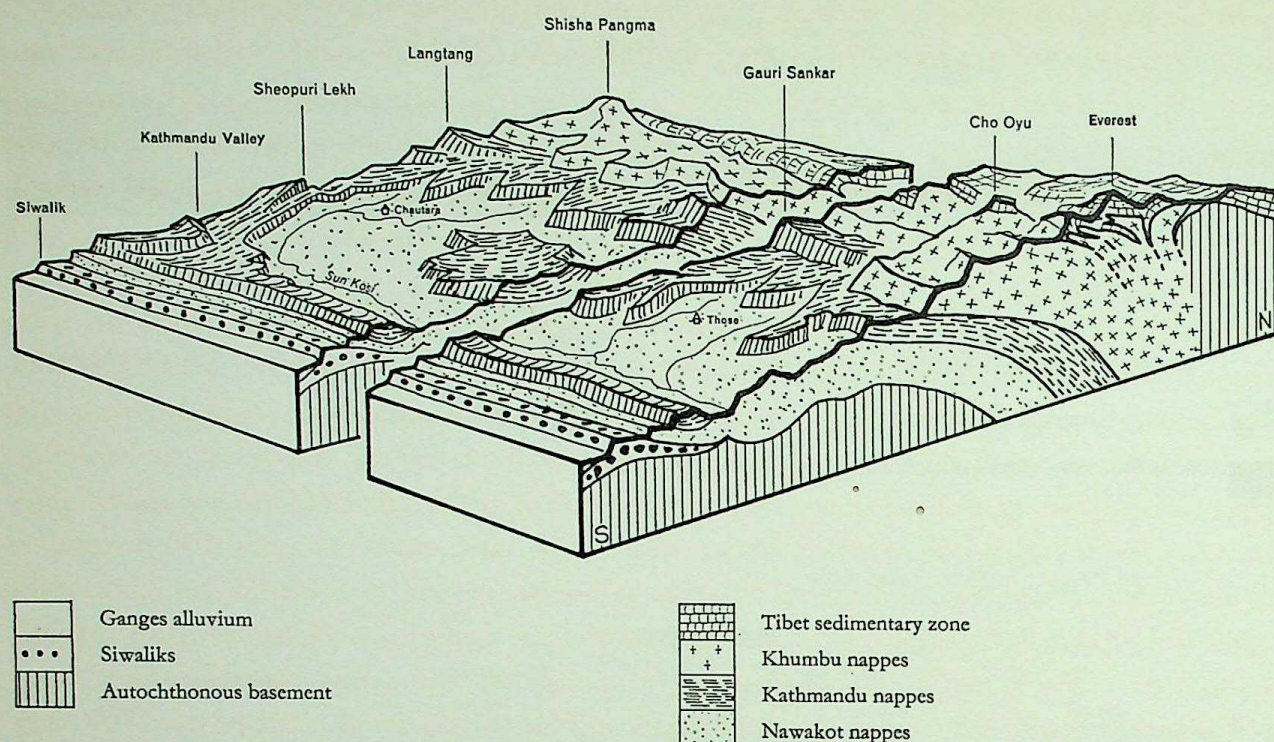
The fundamental topographical profile may be seen in fig. 4. Immediately to the south of the Tibetan marginal mountains, in the catchment-area of the Ganges-system, the rivers first have a steep gradient curve. The bed gradient is reduced towards the northern foot of the principal Himalaya chain (valleys of the Inner Himalayas, Plates 38-40). In the principal chain itself there follows another marked knick-point, a break in the slope (transverse gorge). In the Midlands the rivers then have a very flat course, especially towards the Mahabharat chain, which they intersect in another, though less pronounced, step in the gradient curve.

Two theories have been posited to explain the peculiar fact that the rivers from the north break through the principal chain and flow out into the Ganges plain. One of them assumes that the river-systems existed before the uplift of the Himalayas. The other theory has it that the breach is to be explained simply by erosion that progressed backwards, or uphill, capturing the Tibetan rivers from the south. L. R. Wager, who has investigated the Arun region, holds in principle the theory of the primary origin of the river-system. He considered the fact that the Himalayas are 3000 metres higher than the Tibet plateau to be due to the isostatic balance restored after the erosion of the great transverse valleys. He posits the following hypothesis: if the mountains in the Arun valley and in the Sikkim Himalayas could be levelled and the valleys filled with the débris from it, a plateau would result which would slope gently down from an altitude of 4600 metres at the southern edge of the present Tibet plateau towards the Ganges plain. The early Himalayan rivers with their sources at the edge of the Tibet plateau cut their way backward by increased erosion from the south. To compensate for the loss of material due to this erosion, the edge of the Tibet plateau is said to have been lifted 3000 metres owing to isostatic causes. The well-known Himalaya explorer, N. E. Odell, who took part in the British Everest expedition of 1924, also believes in an uplift of the edge of the Tibet plateau due to isostatic factors. According to his theory, however, the loss of mass was caused by the melting of the ice of the glaciers at the end of the Ice Age.

It is, however, just on the Himalayas that it has been proved that morphological investigations made without consideration for the geological structures are insufficient. According to my own thorough and careful research, the stupendous height of the Himalaya range and the peculiar pattern of its rivers are due, above all, to tectonic thrusts, and not only to mere uplift. Experts are as yet by no means agreed, it is true, as to the original forces that cause the formation of mountains; on the other hand, it is generally assumed that the continents are, as it were, immense land-masses "floating" on the viscous hot interior of the earth. This continental drift, as the movement was called by Alfred Wegener, the genius who

FIG. 7 *Tectonic Profile through the Western Nepalese Himalayas*FIG. 8 *Tectonic Profile through the Swiss Alps*

correctly identified it, takes place in cycles in the earth's history. When continents collide, a chain of mountains rises at the line of junction; when they drift apart, the space between the land-masses deepens to a sea. Present-day Asia has not always been a uniform continental block in the course of the earth's history; before the Himalayas were piled up, the Indian sub-continent was separated from the land-mass in the north by a wide sea, the Himalayan sea. The last approach of the two continental masses began in the geological era of the Mesozoic, that is to say, about seventy million years ago. The Himalayan sea grew narrower, its bed dissected by numerous fractures and faults in an east-west direction. One part of the sea-bed was creased and folded upwards, appearing as the first mountain range in the Himalayan area: the Tibetan marginal mountains were born! The rivers that originated in these mountains flowed down symmetrically on both sides, into the Ganges sea in the south and into the Tibetan

FIG. 9 *Tectonic Block-diagram of Eastern Nepal*

sea in the north. In a second phase, the horizontal thrust was so greatly increased that immense masses of rock from the northern edge of the Indian sub-continent (the so-called root-zone) were thrust upon each other, uplifted and thrust over far (as much as 100 kilometres) towards the south. (Fig. 7.) In this way the huge overthrust masses, or nappes, of the old original Himalayas were formed. In the same phase the plateau of Tibet was born, the sedimentary zones bordering on the Tibetan marginal mountains to the north being elevated. The mountain range itself now attained heights of up to 6000 metres above the sea. It considerably exceeded the old original Himalayas situated further south, which possibly attained only 4000 metres, and it became a well-defined climatic divide. The regions situated further north dried up. In consequence of this uplift of the Tibetan plateau, however, the hydrographic system suffered an unsymmetrical transformation. The water-channels that flowed towards the south were given a considerably greater erosive force by reason of their greater gradient and also because of the increased precipitation. It was so powerful that the rivers were able to cut their deep beds faster than the rate at which the original Himalayas were growing higher. In this way the arrangement of the transverse valleys was also determined, older transverse disturbances with a trend from north to south playing an important part. Thus, at this period, the Himalayas were probably not the highest range. Only later was the decisive step taken in the history of the earth. Once again, and even more powerfully than before, the continental blocks shifted against each other, and the nappe-roots (fig. 7) were squeezed, like toothpaste out of a tube, at least 3000 metres upwards. Almost all the 8000-metre summits of Nepal are

situated at the root-zone of the nappes; they were pressed upwards, however, only in very recent geological ages, about 600,000 years ago, that is to say, almost before the very eyes of primitive man. (Peking man lived at this period.) The piling up of the rocks took place so rapidly that the transverse rivers did not always find time to cut their beds in the transverse gorges correspondingly deeper, and to the north of the root-zone, in the region of the Inner Himalayan valleys, extensive tectonic lakes were dammed up. The transverse rivers, however, flowed into the Ganges sea to the south and gradually filled it up. Alluvial fans in the Siwalik zone (the Molasse of the Himalayas) point to former river estuaries.

A final orogenetic, or mountain-building, phase was, however, fundamentally to change the river-systems in the south yet again. The Himalayas which had been piled up sank in, in contrast to the foreland tracts, the region of the nappe fronts; the Mahabharat mountains and the Nepal Midlands were formed. The rivers that had hitherto flowed towards the south now found their way into the Ganges plain blocked; they were dammed up at the northern foot of the Mahabharat Lekh and formed large lakes (cp. the lakes along the margin of the Swiss Alps). The most famous of them was the former lake of Kathmandu (Plate 58). All the rivers collected in longitudinal valleys at the northern foot of the Mahabharat Lekh, rather as the river Aare collects the rivers from the Swiss midland plain, or foreland, at the southern foot of the Jura ranges. Only at three geologically weak points predestined for breaches were the chief rivers, Karnali, Narayani and Sapt Kosi, able to intersect the Mahabharat Lekh (fig. 3 and relief-map). The upheaval of the Mahabharat Lekh, however, is still in progress. Since the lake of Kathmandu dried up about 200,000 years ago, it has been raised by at least 200 metres; this can be clearly observed by the strata, or bedding, of the corresponding lake deposits, which slope upwards towards the south. The zone is, moreover, a notorious focus, or epicentre, of earthquakes, and this, too, is a sign of the continuation of tectonic movements. Although they belong to the same range, the so-called Alpine range, the Himalayas are younger than the Alps; it is even the youngest chain of mountains in the world. Hence the fantastically steep formations. The latter were not cut out of a larger mountain-mass by erosion alone, as has already been described. The various transverse valleys which divide the chain into a number of partial groups, were, it is true, formed by erosion, though the mountain groups owe their enormous height to an additional active uplift. This is seen especially clearly in Plate 3: like a solitary island, the Everest and Makalu group rises above the vast, flat mountain base.

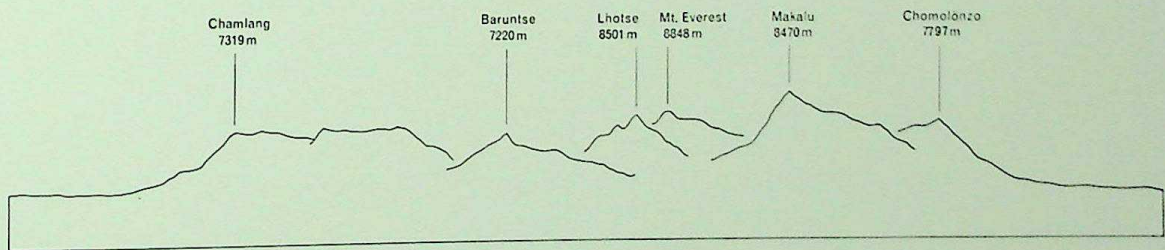
To the Third Pole

The "Third Pole" is what G. O. Dyhrenfurth has called the highest mountains in the world, and the name is most suitable. To climb their highest peaks has always been, and still is today, the dream and desire of countless mountaineers.

As in the struggle for the two actual poles, explorers and mountain climbers of many nations have vied with each other in conquering this "Third Pole". In Nepal this struggle began only in 1950, it is true; that is to say, relatively late, for before that time the kingdom was closed to foreigners. Then, however, followed the conquest of one peak after another. Who does not still remember the dramatic ascent in 1950 of Annapurna by the French, the first summit over 8000 metres (26,247 feet) to be climbed? On Mount Everest, precedence was very rightly left to the British, not only in consideration of their centuries-old brotherhood in arms with Nepal, but above all because they had carried out all the pioneering work from the northern side ever since 1921. In general it must be admitted that the British did a splendid job by the production of useful maps and by their general investigation of the flora and fauna, and of the inhabitants, of the Himalayan region. The completion of the survey by triangulation of the area, the Quarter Inch Map (1 : 253,440) that was based on it by the Survey of India, is a great and unrivalled technical pioneering achievement in the sphere of surveying and reconnaissance. And the British were not even allowed at that time to set foot on Nepalese territory; the work had to be entrusted exclusively to Indian land-surveyors. Ordinance-survey in such a mountainous region is in itself a very difficult task; all the greater is the admiration deserved by the brilliant organization from a distance. Of course mountaineers, used to applying Alpine "standards", have from time to time depreciated this map. From my own experience (and that of other experts) I am able to assert that it is 90% correct; only in a few regions in the high mountains to the north of the principal chain does it contain some slight errors. In the orthography of the names, too, the Survey of India went to work with extreme care. They did not hesitate to use, for example, the letter ö, which is unknown in English, in order to do justice, as far as possible, to the local spelling and pronunciation (e.g. Kangchendzönga). When the first ascent of an 8000-metre summit is made, photographs of the climbers appear in all the illustrated papers, and their names "hit the headlines" of the newspapers; scarcely any notice is taken of the other members of the expedition and their leader. Yet the greatest credit for the success is due just to the leader of an expedition. For the conquest of a mountain, the long march up to the base camp, the gradual move forward of the camps step by step according to plan to higher and higher altitudes, is mainly a matter of transport and organization. The leader has to see to it that the necessary supplies reach the highest camp within the short period between the beginning of spring and the beginning of the monsoon period. Expeditions hardly ever fail because the team of climbers are not equal to the mountain technically, but because the highest camps are not sufficiently well organized and supplied before the monsoon bursts. From this fact it may be concluded how important is the part played by the Sherpas, those experienced high-climbing porters, in the conquest of the Himalayas.

It is not the aim of this book to describe in greater detail the exploration and the history of the ascents made in the Nepalese Himalayas. Anyone who is interested in these questions will find a large number of references in the Bibliography at the end of this volume. The reader may welcome a short compilation in the form of tables to facilitate a comprehensive survey:

Mountain	Expeditions	First Ascent	Further Ascents
Mount Everest (Chomolongma) 8848 metres 29,028 feet	1921-1947 8 British expeditions from Tibetan side 1950 Great Britain 1951 Great Britain 1952 Switzerland (2 expeditions)	1953 Great Britain	1956 Switzerland
Kangchendzönga 8585 metres 28,168 feet	1905 International 1920 Great Britain 1929 Germany 1930 International 1931 Germany 1953 Great Britain 1954 Great Britain 1955 International	1955 Great Britain 1956 Switzerland	
Lhotse 8501 metres 27,890 feet			
Makalu 8470 metres 27,790 feet	1952 Great Britain 1954 USA, New Zealand, France	1955 France	
Dhaulagiri 8172 metres 26,811 feet	1950 France 1953 Switzerland 1954 Argentine 1955 Switzerland/Germany 1956 Argentine 1958 Switzerland 1959 Austria	1960 Switzerland	1960 Switzerland
Cho Oyu 8153 metres 26,750 feet	1952 Great Britain 1954 Switzerland 1959 France	1954 Austria	1958 India
Manaslu 8125 metres 26,658 feet	1952 Japan 1953 Japan 1954 Japan 1955 Japan	1956 Japan	
Annapurna 8078 metres 26,504 feet		1950 France	



- 3 *View over the Nepal Midlands from the Mahabharat Mountains towards the Everest-massif.* The first rays of the rising sun illuminate the bushes in the foreground, which are heavily coated with hoar-frost – it is December – while the considerably lower Nepal Midlands still lie in the dawn twilight. The Everest-massif (to the left of the centre of the picture) is 140 kilometres away; in the right half of the picture the Lumbasumba mountains can be discerned. Between these two mountain-ranges lies the deep-cut gorge of the Arun river, which drains extensive regions of the Tibet plateau to the north of the principal chain. It is thanks to its special situation, sheltered by the Himalayan range in the north and the Mahabharat Lekh in the south, that the Nepal Midlands achieved its high culture, which flourished almost without interruption from the days of antiquity until well on into the late Middle Ages, untouched by the confusion and strife raging beyond the protective mountains.





Racial and Ethnic Diversity

THE HIMALAYAS, THE EVOLUTION OF MANKIND, AND THE YETI (OR ABOMINABLE SNOWMAN). In the year 1929 the first skull of the so-called Peking man (*Sinanthropus pekinensis*) was found in China, and it was believed that the so-called ape-man, the "missing link" between anthropoids and man, had been found. The theory, in a somewhat simplified form, is roughly as follows: When the Himalayas were formed at the end of the geological Tertiary period and the mountains were elevated, the forests on them gradually died. The apes were therefore forced to give up living in trees. In order to be better able to progress on the flat ground, they began to walk erect on their hind legs, and in this way they acquired an upright gait. The shape of the skull was affected by this manner of walking, and a larger brain-capacity developed, which in its turn was a pre-requisite condition for human intelligence. Man developed from the animal, which is guided by its instincts.

It is undoubtedly not wrong to see some connection between one part of man's evolution and the uplifting of the Himalayas, and with the deterioration in the climate on its northern side which was connected with this upheaval. It undoubtedly affected the life and the development of primitive man. Careful investigation of the finds made in China proved Peking man to have been a real man, who lived about 600,000 years ago, knew how to make tools from bones and stones, and already made use of fire.

It is a long way from Peking to the Himalayas; and if the elevation of these mountain ranges caused the transformation of anthropoid or man-like apes to man, proof of this fact, such as skeletons, for instance, should actually be found in the Himalayan countries themselves—in northern India, for instance, or in Nepal, Bhutan, Assam or southern Tibet. But so far neither Palaeolithic stone tools or artefacts, nor fossilized human skeletons have been found in Nepal. It is true, of course, that no investigations have ever yet been made, though the numerous natural and man-made caves, for instance in the Thakkhola region (Plate 38), are an incentive to do so. In recent years the missing link between apes and man has again become a subject of lively discussion. Mountaineers have not only seen, but even photographed, mysterious tracks on the glaciers and in the snow on the high passes of the Himalayas. It is believed, or at least hoped, that they might be the tracks of apes or of the so-called "abominable snowman", and thus science would at last have the "missing link", and that not only in the questionable form of a fossil, but in flesh and blood. But we have not got so far yet! The people of the Himalayas, especially the Sherpas of the Everest area, maintain that they know something about this mysterious creature, which they call "yeti". The Sherpas are convinced that the yeti walks upright, is extremely aggressive, and that it makes use of a language. At night, when one is sitting together with Sherpas in their dark houses, and the fire is blazing on the hearth, and it is warm and cosy, and one hears the icy wind blowing down from the Himalayas, wailing and howling in the cracks and crannies, then they love to tell their blood-curdling tales of the yeti: how it devoured the inhabitants of a mountain hut, how a little girl was carried off by yetis, and so on.

Then it is difficult to remain sober and critical, and not to indulge in romantic speculations. So mountaineers and journalists, avid for sensation, have greatly enriched the yeti legends. Long descriptions of heroic battles between mountaineers and the yeti were published in otherwise serious hunting periodicals. The only curious thing about the matter is that, in spite of all these encounters with the yeti, not a single photograph of one has been published. The only "effigy" that I ever came across on all my travels is at the famous Sherpa monastery of Tengpoche at the foot of Mount Everest. In a Buddhist picture illustrating a story from their mythology there is depicted a strange beast, resembling a cross between a wolf, a bear, and an ape. To my question as to what it represented, they at once replied that it was a yeti!

In actual fact, however, not a single soul has ever actually seen a yeti so far. If you follow up the story of the Sherpas on Mount Everest seriously, if you cross-examine the story-teller, his answer is always: "No, I have not seen the yeti myself; it was my cousin's father, and he lives on the other side of the mountains, and he died two years ago." The Sherpas are very ready to attribute any tracks to the yeti. Once, when I was wandering alone in the mist with my Sherpa Aila on one of the glaciers of the Annapurna chain, we suddenly came across distinct tracks in the snow. I could not account for them, and I asked Aila what he thought. He replied: "This is the yeti, Sir." I asked how he could be so certain of this, and he answered, "Nobody else here, Sir".

In fact we know today only that the yeti must exist; for the tracks on the glaciers and in the snow are undoubtedly made by a living creature. But what it is, whether monkey, bear, or ape, is as yet uncertain. The skins, too, which were said to have been found, were later proved to be frauds. Of course this mysterious creature is unlikely to spend its whole life on the glaciers, but rather in the wild, uninhabited and unapproachable forested valleys, for instance to the south and south-east of the Everest and Makalu group. The glacier-covered high passes are presumably only traversed when the creature crosses from one valley into another. It is quite possible that the yeti will turn out to be more harmless, and above all less sensational, when it is found one day by some serious scientific expedition. More essential and more worthy of a careful study is the Nepalese himself. In order to be able to understand the ethnical diversity and the cultural development of Nepal, one must constantly bear in mind the foreign influences that have played a decisive role in this respect. Like all great mountains, the Himalayas have not only acted as a barrier to separate people, but they also canalize the communications between the two sides (as did the St. Gotthard Pass in the old Swiss Federation). It served, as it were, as a bridge between different worlds, and in peacetime as in times of war, this transit traffic has greatly influenced the peoples that guard the Himalayan passes. Strange to say, the terrain played a less important role for travelling then than they do today. When the entire traffic was on foot or by means of pack animals, or such as could be ridden, a journey from Nepal to Lhasa or Peking was hardly more difficult than one through the fever-ridden lowlands to Bombay. The isolation and seclusion of the mountain regions and their inhabitants followed upon the conquest of the plains by the motor-car and the railway, whereas the mountains were left severely alone on account

of the great technical difficulties they presented. Thus the traffic that set out from Kathmandu to go to Tibet and China used to be just as heavy as that to the principalities in the Indian lowland plains. The Indian sub-continent is inhabited by peoples of black, yellow and white races. The oldest inhabitants, who were subsequently absorbed by later immigrants from the north and from the east, seem to have been negroid. The yellow race is represented by peoples from Indo-China and Cambodia; and the ancestors of the Dravidians, who immigrated from the north thousands of years ago, are thought to have belonged originally to the white race. Around 1500 B.C. the Aryans, who belonged to the Indo-Germanic language-group, entered the country. In the mountain region of Nepal, these races came into conflict with the Mongoloid tribes from the interior of Asia, either mixing with them in the more accessible regions, or remaining surprisingly pure until the present day in especially isolated valleys. Thus, for instance, pronounced negroid types are found in the south-west Terai, whereas certain Brahmans, or Kshatriyas, might easily be citizens of any central European town. Thamangs from Trisuli exhibit the characteristic Mongoloid traits in a more pure form than do the races that live further to the north, and finally there are Rais and Limbus, who might be mistaken for Chinese.

On my travels through Nepal, which were spread over several years and took me on a criss-cross route through the whole country, I studied these questions in detail, and I always made systematic statistics concerning the ethnic group of the inhabitants of the regions I passed through. I was able to ascertain that even the people in the remote valleys were fully aware of the group to which they belonged. In time I was even able to determine the racial group by their features, their stature, and their clothing. The three most important races living in Nepal are distinguished outwardly above all by the type of their eyes: the Mongoloid eye, the almond-shaped or slit-shaped eye, and the open eye. The following are their characteristics: in the *slit-shaped eye*, the fold of the upper eyelid falls partly or entirely over the edge of the eyelid, and so produces the almond-shaped or "screwed-up" eye (Plates 11, 15, 17). The inner corner of the eye, however, where the upper and the lower eyelids meet, remains free and uncovered. And this is its distinctive characteristic compared with the Mongoloid eye: in the latter, the upper lid droops so low that it cuts across the end of the lower lid and covers the inner corner of the eye. It is the so-called Mongol fold or epicanthus (Plate 19). The Mongoloid eye is inherited dominantly; if one of the parents has Mongoloid eyes, all the offspring will also have it. That is why the pure Mongoloid eye is also found in half-castes.

Presumably the almond-shaped eye was, in the history of development, a transitional form between the open and the Mongoloid eye. The peoples with almond-shaped eyes are known as Palaeo-Mongols (ancient Mongols). The purest representatives of it are the Newars (Plate 17). But the Palaeo-Mongols are also extensively found in the other south-Himalayan regions: in Nepal, Sikkim, Bhutan, Assam, Burma, in southern China and in Tibet.

THE ETHNICAL TURN-TABLE OF ASIA. Few countries exhibit such racial, ethnical, linguistic and cultural diversity within such a small compass as Nepal, so that the country may rightly be called

the "ethnic turn-table of Asia". Racially, the inhabitants may be divided into the Tibeto-Nepalese and the Indo-Nepalese groups. This racial sub-division also corresponds with the linguistic division: the one group, with Mongoloid and almond-shaped eyes, belongs to the Tibeto-Burman language family, a branch of the Sino-Tibetan group of languages. The other group, that of the Indo-Nepalese races, was originally characterized by the open eye, and they speak languages that are derived from the Indo-Aryan stock. Thus, for instance, Sanskrit is still used in some parts as the colloquial spoken language.

The classification within the two principal racial groups cannot, however, be undertaken according to uniform, or entirely to anthropological, standpoints; for investigations, and above all measurements, are almost entirely lacking, while the few figures that exist refer almost exclusively to the Newars. Nevertheless, in the sub-groups there are, of course, anthropological distinctions, as we shall see in the description of the individual ethnic groups. Their principal characteristics are, apart from the physiognomy, the manners and customs, religion and clothing, the type of the houses, and of course the language. Among themselves, all the sub-groups of the Tibeto-Nepalese races, for instance, speak their own vernacular.

The following table will facilitate the understanding of the survey of the various ethnic groups represented in the Nepalese population:

TIBETO-NEPALESE RACES

Tibetan groups	Ancient Nepalese groups	
Bhotiyas	Newars	Rais
Sherpas	Thamangs	Limbus
Thakals	Gurungs	Buras
	Mangars	Rukhas
	Sunwars	Tharus

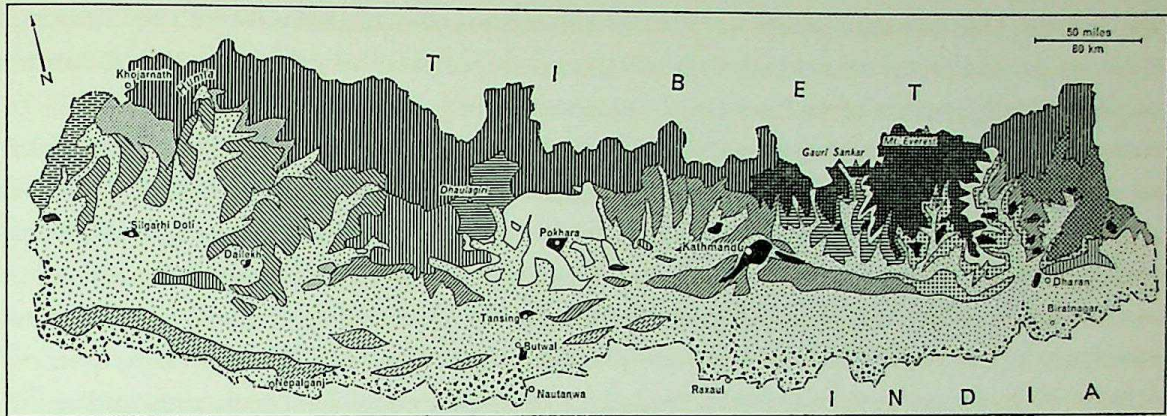
INDO-NEPALESE RACES

Indian groups	Nepalese groups
Indian *	Brahmans
Garhwals	Kshatriyas
Kumaons	(incl. Gurkhas *)
	Khas
	Chetris
	Thakurs

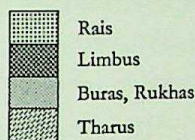
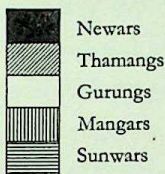
* in the strict sense

In this classification, the remnants of a few insignificant primitive tribes have not been specified. These small miscellaneous minority groups, still numerous today, live by hunting, and on a diet of tubers, roots, leaves, and fruits. They are short and dark-skinned, and judging by their eyes they belong to the Palaeo-Mongols. They do not have well-built houses, but live either in primitive huts made of branches, or in caves, or even under projecting rocks.

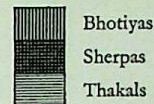
It may also be observed that the designation "Gurkha", by which the Nepali won fame as soldiers, figures in only a subordinate position in this table. Nepal is often spoken of as the home of the Gurkhas, as if *Nepalese* and *Gurkha* were synonymous. This widespread error can be traced back to the fact that the British army applied the name *Gurkha* to all the soldiers recruited in Nepal. This

FIG. 10 *Map of Races and Ethnological Groups**Tibeto-Nepalese races*

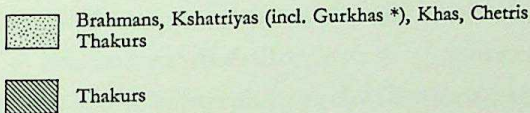
Ancient Nepalese groups



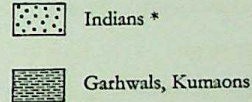
Tibetan groups

*Indo-Nepalese races*

Nepalese groups



Indian groups



* in the strict sense

appellation, however, really originates from the little town of Gurkha, or Gorkha, from which the conquest of Nepal was begun in the year 1766 (Plates 66 and 67). In the so-called "Gurkha regiments" serving in the British and Indian armies there are only very few Gurkhas in the ethnological sense. Most of the soldiers belong to the ancient Nepalese races, i.e. they are Gurungs, Thamangs, Rais, Mangars, and Limbus, with some Sherpas and Newars.

The chart of the races and tribes (fig. 10) shows a very different picture from the ethnological maps of other countries, and at a first glance the distribution of the people seems chaotic. There are practically no closed areas of settlement, the various groups being scattered irregularly over the country and dovetailing into each other in an extraordinary way. This division may be explained by the fact that each ethnic group prefers its own range of altitude. The limits of the settlements therefore coincide, over great parts of Nepal, with contour lines (figs. 11-13). As I explained in the section on the country's agricultural zones, the mountain ranges and river-systems divide Nepal into a great number of

natural regions, not all of which are equally favourably situated for settlement. This division of the country into clearly-defined zones has had a decisive influence on the distribution of the ethnic groups. Three longitudinal zones appear to have been especially predestined for cultivation: the Midlands, the Terai, and the high valleys of the Inner Himalayas.

In the Midlands, the heart of Nepal, with the favourable climate and the natural protection of the mountains, ancient Nepalese tribes settled very early. Actually, they constitute the original Nepalese population. The other ethnic groups, the Indo-Nepalese races and the Tibetan sub-groups, infiltrated into the territory of present-day Nepal only at a later date. For a long time these tribes led a peaceful existence in the Nepal Midlands. They could allow themselves to cultivate only the intermediate altitudes, which are especially favourable from the point of view of climate. Nobody contested their right to this living space, or forced them to till, for instance, the malarial valleys in the south or the inhospitable regions of the high mountains. Only the wars of religion between the Mohammedans and the old Indian principalities beyond the borders of Nepal put an end to this "splendid isolation". The upper social classes being most gravely endangered in ideological wars, the Brahmans (priests) and the Kshatriyas (warriors) fled up to the remote and more peaceful Himalayas. Being inhabitants of the lowlands, however, these refugees avoided the actual mountains, and settled only at altitudes below 2000 metres.

It is therefore almost exclusively the highest castes of the Hindu Indo-Nepalese population that are represented in Nepal. Whole valleys are inhabited only by Brahmans, while in other large areas the Kshatriya population has remained perfectly pure and unmixed. They could not always maintain their high social position in the new country, however, for they were forced to earn their own livings. Evidently they did not always find this an easy matter; especially in rural valleys in the east and in the west of the country one comes across Brahman populations with a lower standard of living than any other group of the Nepalese population. In the towns, it is true, it is especially the Brahmans who were able to maintain, and even in part to strengthen, their position of importance.

In general, the invasion from the south was a peaceful one; now and again, however, whole tribes forced their way into the Nepal Midlands, e.g. the Gurkhas. Thus, in the course of time, the migrants mixed with the old original inhabitants, though often they were absorbed by them, too. The exclusive caste of the Brahmans has naturally remained the purest, with least admixture of other races.

The original inhabitants of Nepal found themselves faced with an overpowering pressure from the lowlands, before which they had to retreat. Evidence may still be found of such displacement, and hence a shift of the frontiers between ancient Nepalese and Indo-Nepalese cultural areas, in several valleys of eastern Nepal: numerous deserted *chortens* and prayer-walls at altitudes below 1500 metres above sea-level, that is to say in areas that are today inhabited exclusively by Indo-Nepalese tribes. They are relics of the adherents of the Bon Po doctrine of the Thamangs and the Rais, who were once predominant here. Quite recently the pressure from the south has even increased owing to the overpopulation in India and the ensuing difficulty in the nutrition sector. On the other hand, the

expansion of the settlement area towards the north is naturally limited by the altitude and the climate connected with it. In the Midlands, the effects of this invasion from the south are not very marked so far, but it is so in the Terai. Alongside of this, there is the admixture of Indian traders (*marwars*) in the Nepalese trading-centres. As a rule these Indians have an easy time of it for, with the exception of the Newars, the ancient Nepalese tribes show no inclination for trade.

It was not only from the south, however, but also from the north, though less intensively, that a pressure of migrant peoples was felt. For the Tibetans, with their harsh climate, the Nepal Midlands are almost a Paradise. Already in the early Middle Ages, therefore, tribes from Inner Tibet set out towards the south, settling in the valleys of the Himalayas, e.g. the Sherpas in east Nepal or the Thakals in central Nepal (figs. 10-12). No racial admixture with the ancient Nepalese races of the Midlands resulted, however, for the intruders from the north took possession only of areas above 2400 metres and at these altitudes the original inhabitants built no villages, except in the transverse valleys, where the settlements of the two ethnic groups are contiguous.

The gradual infiltration of pure Tibetans (Bhotiyas) is still taking place today, and the Nepalese valleys of the Inner Himalayas are also becoming depopulated, with the exception of Khumbu, the people wandering away southwards. This is presumably connected with the increasing deterioration of the climate in the northern Himalayas, or maybe with the above-mentioned thoughtless deforestation in the Inner Himalayas. In those valleys one finds, for instance, great elaborately terraced slopes and whole towns lying in ruins, witnesses of former agriculture in the region. The revolution in Tibet has, of course, intensified the emigration to Nepal. This is, however, no cause for uneasiness among the ancient Nepalese races, for there is still plenty of land that can be cultivated at suitable altitudes to the south of the Himalayas.

In the west of Nepal, where the ancient Nepalese races are not represented at all, there is a great gap between the settlements of the Indo-Nepalese groups of the Brahmans, Kshatriyas, Chetris and Thakurs on the one hand and the Tibetan groups on the other; vast areas between 2000 and 3400 metres above sea-level are uninhabited, e.g. in the Jumla basin and in the Hiunchuli mountains, as well as in the Dhor Patan region (fig. 13).

If we take into account the circumstances that have led ethnic groups to settle in certain areas, the racial and ethnical chart in fig. 10 no longer seems so very confusing. The Indo-Nepalese groups cover the major part of the Midlands, as also the entire Terai. The ancient Nepalese groups are found at higher altitudes in the Midlands and especially on the southern flanks of the Himalayas (fig. 12). The Bhotiyas, on the other hand, the pure Tibetans, populate regions to the north of the principal chain, especially the valleys of the Inner Himalayas (fig. 12). The Thakals and Sherpas, again, have chosen to settle in especially favourable areas, namely those along the important trade routes to Tibet. The racial chart also shows that the ancient Nepalese groups are restricted to central and eastern Nepal; to the west of the catchment-area of the Kali Gandaki river they are no longer represented (figs. 10 and 11-13).

FIG. 11 *Ethnical Cross-section through Eastern Nepal*

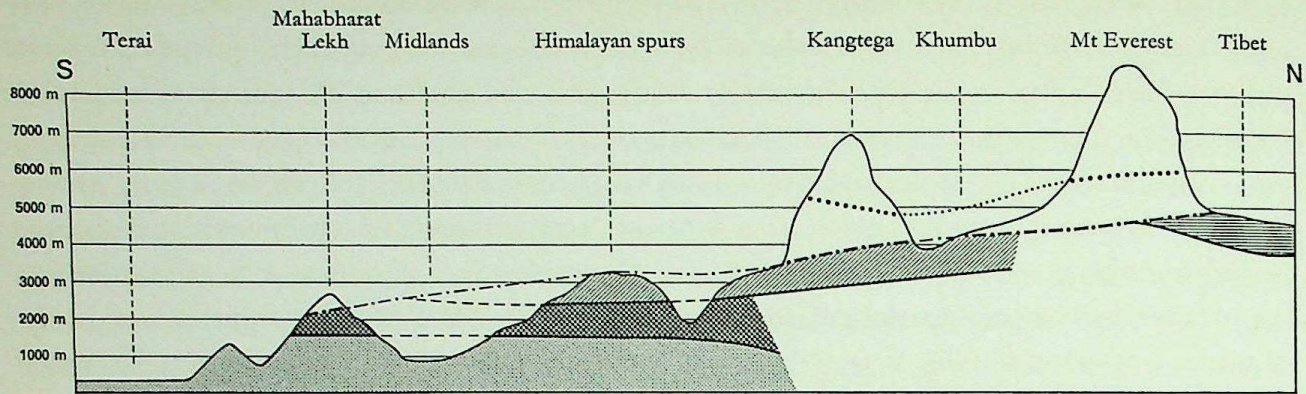


FIG. 12 *Ethnical Cross-section through Central Nepal*

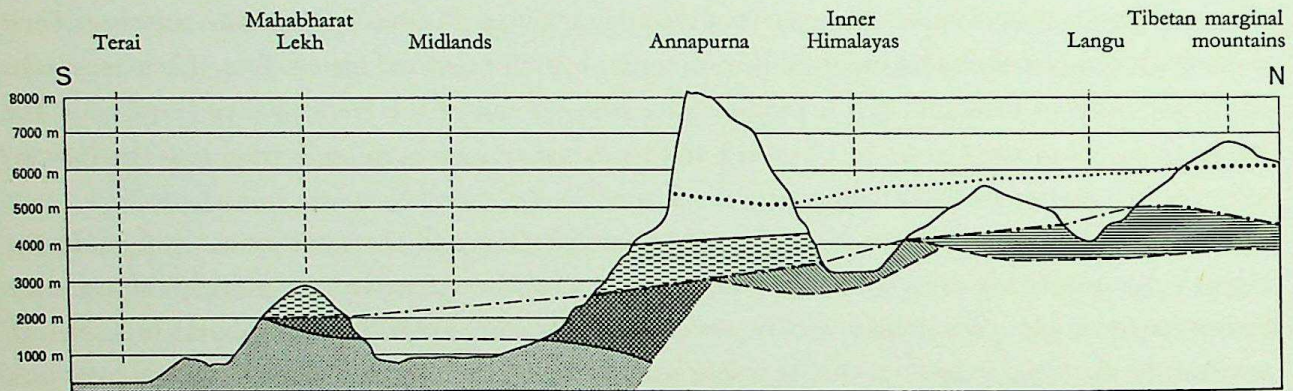
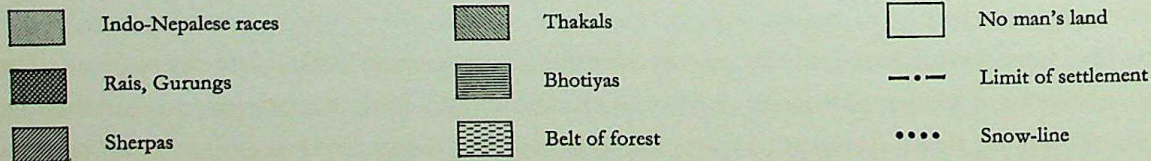
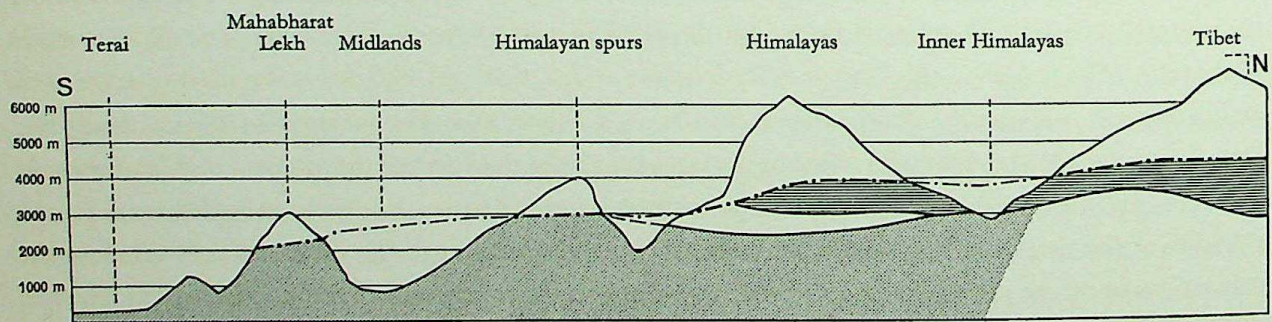


FIG. 13 *Ethnical Cross-section through Western Nepal*



THE NEWARS. Their principal settlement area is the Nepal Valley, and today they inhabit only a very small part of the rest of the country (fig. 10). Being members of the ancient Nepalese (Palaeo-Mongolian) race, the Newars have almond-shaped eyes. They are small and graceful in build, their features well-cut, the complexion slightly yellowish or sallow, the nose small and—in contrast to the ancient Nepalese Rai tribe—it is not deeply saddled. Many Indo-Nepalese elements have been absorbed by the Newars, which is why the racial characteristics have not everywhere been preserved pure. Among them one may find tall, strong figures, types with open eyes, and often even people with pronounced Semitic features. In spite of the role they have played in the history and culture of Nepal, the Newars have always formed only a small minority of the population. Yet almost the entire culture of the Midlands is their work. Only in places where they settled or where their myths created consecrated places—at springs, for instance, on rivers or lakes, in gorges or on mountain peaks—does one find evidence of their culture. Thus the Terai, for instance, where no Newars live, has only very few holy places and sanctuaries.

That the Newars should have achieved one of the highest levels of culture in Asia is astonishing. Their mythology is unusually rich, and it goes back to the beginning of the historic era. Their traditions tell of the birth of mankind, of the creation of the world and of the Nepal Valley (Plate 58). The legends that tell of the former lake in the Kathmandu valley may be an indication that the Newars were the first people to settle there.

In the cultivation of the soil the Newars are far ahead of almost all the other ethnic groups. In the Nepal Valley practically every kind of vegetable and fruit of the temperate and sub-tropical zones are grown; such variety is quite unknown, however, wherever there are no larger, compact rural Newar settlements. Artificial irrigation, too, is widespread in the Nepal Valley, which allows two harvests to be brought in in one year. The irrigation laws are in a certain sense similar to those in the Swiss Canton of Valais; they are the work of the so-called Gothi union or corporation, an old tribal organization comparable to the medieval fraternities or the craftsmen's guilds and corporations. It is peculiar that the Newars, in spite of their high level of culture, have remained at an archaic stage in husbandry. The fields are tilled exclusively with the *kodali*, a shovel-like, short-handled iron mattock or hoe, which has scarcely changed its form since the Stone Age. The plough is still practically unknown among the Newars today, although it could easily be used on the flat and rather large fields. At any rate, the use of the plough might more easily be justified in the Kathmandu valley than among the hills of the rest of the Midlands, with their tiny fields, which are for the most part tilled by the other groups of the population with wooden ploughs drawn by a team of oxen. The Newar method of tilling with the hoe or mattock is, like the use of the dibber, one of the most ancient and archaic ways of cultivating the land.

Today the Newars are divided into two great religious groups, namely, the adherents of Siva (a Hindu deity) and those of Gautama Buddha. There are therefore both Brahman priests and Buddhist lamas and monks among them. Both groups, strange to say, have a distinctive system of castes, which was

forced upon the originally Buddhist Newar people from outside. The merchants and traders form a separate caste, and that of the farmers is greatly esteemed. Butchers, drum-makers, scourers (sweepers, cleaners) and knackers belong to the low castes, and right at the bottom of the list come the crossing-sweepers. The people are also sub-divided into clans, such as, for instance, the Mallas, Shrestas, Pradhans, etc.

The Newars have also evolved a style of their own for their dwelling-houses, temples and palaces, namely, brickwork masonry with wooden or timber framework, and the characteristic window constructions (Plates 60–62). Especially well-known is the Nepalese *stupa* (Plate 63). The pagoda-style probably spread from Nepal to eastern Asia, Newar craftsmen having been introduced by the Mongol emperors to Lhasa and Peking. But the Newars were also masters in all the other branches of craftsmanship in metal, stone, and wood (Plates 60–62, 64, 65). The works of art in gold and silver—the Golden Gate of the Bhatgaon Durbar in Plate 60 is an example—and the many paintings are eloquent testimony of their artistic skill.

The Newar literature is extensive, and they very early developed a writing of their own. They were skilled in astrology and still today they have astrologers to determine propitious dates for journeys, family events, and important decisions.

It is not only in culture and craftsmanship that the Newars excel: they are also good merchants and all the Newar settlements outside the Nepal Valley owe their origin to trade (fig. 10). Their towns are to be found wherever important trade-routes cross, e.g. at the junction of the north–south route with the mid-Nepalese longitudinal routes. The present-day district centres—including Pokhara (Plate 26)—have developed from such Newar colonies, and some of these places, for instance Chainpur in the east of Nepal, or Bandipur in central Nepal, are some of the prettiest townships imaginable. They bear comparison with the most beautiful medieval German or Swiss towns.

Of course the Newars who were engaged in trade did not restrict their activity to their own country; they settled at all the railway stations along the Nepal borders, and many of them own depots in large Indian towns and cities, such as Calcutta and Patna. Until 1959, a large Newar colony in Lhasa was engaged in trade with India.

THE THAMANGS. The Thamangs also belong to the ancient Nepalese race. Their settlement-area covers a great expanse, and in the Nepal Valley it includes part of the Newar zone (fig. 10). Today they are found in the Mahabharat chain, to the south of Kathmandu and even in eastern Nepal and in the Terai. To this southern zone they have spread only recently, however; their original Nepalese home is on the southern flank of Ganesh-Himal, bounded on the east by the Trisuli river and on the west by the Buri Gandaki. Here the original type of the Thamang house has been preserved unchanged; chalet-like houses, in good taste, with low-pitched gabled roofs and fine wooden verandahs (Plate 20). Even the stones on the shingle-covered roofs, such as one also sees on the Swiss chalets in the mountains, are found there, too.

It is not only the culture and the original religion of the Thamangs that have remained purer on Ganesh-Himal than anywhere else, but one also comes across the original indigenous type of people there (Plate 19) with extraordinarily pronounced Mongoloid features, with broad faces, and of thickset and sturdy build. In the southern settlement-areas, on the contrary, they have evidently mixed very considerably with other tribes and have become more refined. They have also given up their own type of house there and have adopted the Indo-Nepalese way of building.

In their own settlement-area, the Thamangs inhabit altitudes between 1400 and 2500 metres above sea-level, and grow above all maize, millet and barley. Some of the valleys on Ganesh-Himal have not yet been touched by the invasion of the Indo-Nepalese ethnic groups, and here the Thamangs cultivate the soil over an exceptionally wide range of altitudes between the valley-floor and the timber-line. Here they have developed a kind of rotation economy, such as is also found in certain Swiss Alpine valleys. At middle altitudes they grow the produce already mentioned; on the valley-floor they have their rice-fields, and above the villages, up as far as the timber-line, lie their potatoe-fields. These great differences in altitude make it necessary for the peasants to change their habitations more than once each year, and they therefore possess a variety of domestic animals, according to the altitude of their land: water-buffaloes, cattle, goats, sheep and *tsauris* (a cross between the Nepalese cattle and the yak). Tradition has it that the Thamangs originally came from the region of Inner Tibet. They are still called "Bhote" by their Indo-Nepalese neighbours, and this name suggests their Tibetan origin; for "Bhote" is also added to Nepalese river-names to indicate that they rise in Tibet, e.g. Bhote Kosi. According to the myth, the first mother of the Thamangs was a cow. She bore three sons, Tshenggu, Lunggu and Tulgu, the last-named becoming the founder and tribal ancestor of the Thamang race. In the remote northern valleys, the Thamangs have kept the old religion, which is related to the Inner Asiatic form of Shamanism, and in which the magician Bon plays an important part. The Bon religion is the pre-Buddhist religious doctrine in Tibet and the Bon Po, the adherents of this faith, believe themselves to be constantly surrounded by spirits, with which they come into contact by means of spells and charms. When Buddhism invaded Tibet in the 7th century, it adopted a number of these spirits into its doctrine, and the Bon priests, for their part, adapted their religion to the new Buddhist teaching. This gradually led to a merging of the two religions, and in the northern valleys, such as Trisuli, the Thamang religion is scarcely to be distinguished outwardly from Tibetan Buddhism: Lamaism, monasteries, *chortens*, prayer-walls and prayer-wheels are found in both; these prayer-wheels all contain the Buddhist formula "Om Mani Padme Hum", the sense of which is roughly: "O you jewel in the lotus, amen". In the lower-lying zones, too, the original Thamang religion has become admixed with other doctrines—above all with Hindu teaching.

THE GURUNGS. The home of the Gurungs is the southern flank of the Annapurna-massif, bounded in the east by the Marsyandi river, and in the west by the Kali Gandaki. Their settlement-area thus adjoins that of the Thamangs to the west (fig. 10), and they have spread outwards towards the south,

west and east. They are found distributed over the whole of the Midlands in the cross-section of Annapurna and as far as the Mahabharat Lekh (Plates 22 and 23). A few scattered colonies even lie almost on the border with Sikkim, to the north of Ilam. In their own settlement-area, the Gurungs live in sizable villages, the biggest in the whole of Nepal. They are situated high up on relatively steep slopes, among maize and millet fields, and from these places the Gurungs cultivate their rice-fields on the valley-floor. Their cattle consist principally of water-buffaloes, with which they go up in summer to pastures as high as 3800 metres above sea-level on the southern flank of Annapurna—which is an exception in Nepal. The walls of the large, mostly two-storied houses (Plate 24) consist of neatly constructed drystone walls, and the roofs are covered with slate. Besides the normal type of house with a rectangular ground-plan, the Gurungs have developed, to the west of Pokhara, that is to say in the southern part of their settlement-area, a peculiar type with an elliptical ground-plan and with conical thatched roofs. (Plates 22 and 23.)

The Gurungs have pronounced Mongol features. They are short, their complexion is slightly yellowish, and among them there are types with Mongoloid and others with almond-shaped eyes. The women and girls—who are uncommonly attractive, as Plate 14 proves—like to adorn themselves with big wrought ornaments of brass or gold.

The southern flank of Annapurna, with its abundant pre-monsoon rainfall, allows of an especially intensive cultivation of the soil; this is one of the reasons why the living-standard of the Gurungs is higher than that of the other ancient Nepalese races. More important in this respect, however, is the fact that the Gurungs have provided an especially large number of mercenary soldiers. The old soldiers are now enjoying the usufruct of the high pensions, which often amount to many times the average income derived from agriculture.

The major part of the Gurungs—but more especially the families of the younger soliders—are Hindus by religion. In the more isolated regions, however, they still worship their local gods and the old lamas; tantric and even older magic lore also plays an important role.

THE MANGARS. The Mangars are the westernmost of the larger ancient Nepalese ethnic groups; the miscellaneous minority groups of the Rukhas and the Buras, to the east of the Saipal river, are insignificant (fig. 10). The neighbours of the Gurungs, the Mangars live on the western and southern flanks of the Dhaulagiri-massif. Scattered colonies are found as far afield as eastern Nepal, however, and down in the Terai of eastern Nepal, and there is a large compact settlement-area situated in the wide sweep of the Karnali river, between Dhundras and Chhapre. The Mangars have not developed a type of house peculiar to themselves, but have adopted their neighbours' type of dwelling-house. At the western end of the Dhaulagiri-massif and on the upper course of the Uttar-Ganga river, they live in massive houses with flat roofs, whose form is an imitation of the houses in neighbouring Tibetan settlements to the north. On the southern flank of the Dhaulagiri-massif, on the contrary, in the Mayangdi valley, they build their houses, as do the Gurungs, of drystone walls roofed with slate.

The Mangars have, like the Gurungs, gained fame as gallant soldiers in British service; besides this, however, they possess considerable skill as craftsmen: they are the bridge-builders and blacksmiths among the Nepalese, and the primitive mining is largely in their hands. From the more southerly regions, that is to say on the lower courses of the Bheri and the Karnali rivers, a great number of Mangars annually migrate to the Terai and there manufacture bamboo panniers, baskets, and mats for sale in the bazaars along the borders. In their most northerly settlement, on the other hand, the important trading-centre of Tarakot on the Barbung river, they have largely adapted their way of life, their clothes, and their religion to that of the Tibetans; like the latter, they also live by the salt trade. Here there are found numerous lamaseries with Mangar lamas; in the lower zones, however, Hinduism of a tantristic tendency prevails.

As regards the race, the Mangars are related to the Newars; like the latter, they have almond-shaped eyes or even open eyes, whereas Mongoloid eyes are very rare.

I have already pointed out that the distribution of the races in eastern Nepal is quite different from that in the western part of the country, where the ancient Nepalese people are entirely lacking. To the west of the catchment-area of the Kali Gandaki river there live only Indo-Nepalese races and Tibetans (Bhotiyas). Their settlement-areas partly adjoin each other, and sometimes extensive regions lying between them are altogether uninhabited. Strange to say, this fact has great economic importance: only ancient Nepalese races went as mercenaries, and so they alone had, and still have, a share in the financial prosperity of the mercenary soldier's life. For this reason the living-standard in the west of the country is in general considerably lower than in the eastern part.

THE KIRANTIS (RAIS AND LIMBUS). It is usual to take together the two eastern Nepalese ethnic groups, the Rais and the Limbus, both of whom have a pronounced Mongoloid strain, under their former name of Kirantis. The Rais have the root of the nose especially low (Plate 11) and the Limbus are characterized by their exceedingly broad cheek-bones. The Rai women are famous for their beauty (Plate 11). The men were considered, in the Gurkha regiments, to be especially brave, and the Limbus were known and feared above all for their fierceness.

According to their own traditions, it was the Kirantis, and not the Newars, who were the first people to settle in the Nepal Valley. In fact there is much to suggest that it was indeed they who provided the ruling families in the country from 700 B.C. until 100 A.D. This cannot, admittedly, be proved with any certainty, for the Newars were sometimes also included among the Kirantis. There is a legend that tells of Parungo and his wife Sim Nima, the original parents of the Kirantis, who lived together by a dried-up lake (lake of Kathmandu?). When their three sons, Lapche, Jimdar, and Meche, were grown up, they sent them abroad to seek land of their own and to cultivate it. On their wanderings, the three youths came to a wild banana-plant. Immediately Lapche set about cutting it down; but his brother Jimdar said to him: "If you wilfully destroy what the higher powers have set up, we will no longer stay with you." They continued on their way without Lapche; later, however, the two remaining

brothers separated, each going his own way alone, and each settled in a different region. Thus arose the three tribes of the Lapches (Lepchas), Jimdars (Kirantis) and Meches. The Lepchas today inhabit the Sikkim regions, immediately to the east of the Nepal border, and the Jimdars settled in the Nepal Valley. The Limbus, originally one of the numerous Kiranti tribes, later formed an independent people, which also developed a language of their own.

Rais and Limbus probably have a common origin, but today they live in separate regions. The *Rais* settled to the west of the Arun river in the catchment-area of the Sun Kosi river (figs. 10 and 11) at intermediate altitudes ranging from 1400 to 2400 metres above sea-level. They are distinguished in various ways from the other ancient Nepalese groups, even though they have not developed their own type of house. They are a gay and lively people who love big festivals, at which a great deal of meat is eaten, washed down with *chang* (home-brewed beer) and *rakshi* (spirits).

The way in which the young men court their brides is very amusing. As among other peoples, the pretty Rai girls have more than one admirer, and those who wish to court her meet in the presence of the girl and her parents in some public place. The first one begins to sing a song, the words of which he has composed himself, and the girl replies by singing the response. If the young man cannot reply to it, he is regarded as vanquished and must leave the place. The girl, however, makes believe she cannot reply to the song of the man she loves, whereupon she is considered to have been vanquished and must become his wife.

Such playful "minstrelsy" was formerly also popular among the ancient Nepalese groups around Kathmandu, but unfortunately this merry custom has been dying out since 1950.

The *Limbus* have settled in the east of Nepal between the Arun river and the Sikkim border (fig. 10). Their development was independent of the Kirantis as regards not only the language, but also their religion and mythology. According to their own legend concerning their origin, the chief god, Niwa Buma, first created the earth, then the water and afterwards he formed man of pure gold. But even before this man was able to speak, that is to say, before a soul dwelt within him, a monstrous horse-like creature destroyed this golden man; for the beast was jealous because the god had made him so splendid. The god grew very angry with the horse and punished it. From that time onwards it had to walk on four legs, and not, as before, on its hind legs, and for all time it was to carry men and their burdens. Then the god created another man, this time of ashes and bird-dung. That was Limbu, and the god gave him a wife that he might found a family and his tribe increase.

The Limbus worship their god with numerous sacrifices; Lamaistic ritual is widespread, and there are also monks and lamaseries. Besides this, however, there is also a strong Buddhist influence from Tibet, and Hindu-Tantric rites from the south are found (Plate 25). About 200 years ago a monk even invented a special Limbu writing or alphabet; but it scarcely became known and it has been preserved in only a very few manuscripts.

The Limbus' standard of living is the highest in Nepal, apart from that of the Sherpas, for they have evolved a very fine type of house (Plate 25). This, however, probably depends less on the race than

on the climate. Eastern Nepal has considerably greater precipitation than the west of Nepal, both during the summer monsoon and in the winter, and this again favours not only rice but also winter crops.

THE THARUS. The Tharus, the only ancient Nepalese group living in the Terai, are feared by their neighbours, who ascribe magic powers to them. Judging by their features and their complexion, it is easy to conclude that they are of negroid origin. These characteristics are so pronounced that my simple porters—Gurung and Thamang mountain-peasants—when they were shown an American magazine with pictures of the Little Rock negroes at once declared understandingly: “American Tharus”. Thorough blood-group investigations have shown, however, that the Tharus belong to the ancient Nepalese races, and in their blood there are undoubtedly much older elements, which come from the original inhabitants. Besides the open eye, the almond-shaped eye is found here and there.

The Tharus and their womenfolk are skilled hunters, fishermen and peasants. To fish they use big nets, beautifully fitted on wooden frames, which may also have been the prototypes of their hair-nets. The women’s way of dressing their hair and their head-wear, that is to say, knots or “buns” high up on the head and coarse-meshed black veils, are reminiscent of the coiffure of Spanish women. The men wear their greased blue-black hair tied up with a red ribbon at the back of the head—a “hair-do” that we know in Europe, too—the “pony tail”!

MISCELLANEOUS MINORITY GROUPS. It would go beyond the scope of this book, were I to deal in greater detail with all the miscellaneous sub-groups within the ancient Nepalese race, e.g. the Sunwars, the Rukhas, and the Buras, etc. It should, however, be pointed out that the principal settlement-area of the Sunwars lies on the upper course of the Sun Kosi river (fig. 10). They have made a name for themselves as excellent smiths and goldsmiths, and they have even associated to form a special smiths’ caste, calling themselves the Kamis.

The Buras and the Rukhas, on the contrary (in western Nepal), have hitherto remained almost unknown.

THE INDO-NEPALESE RACES. The immigration of Indo-Nepalese peoples, above all their warriors, priests, scholars and monks, who fled into the mountainous country from the centres of disturbance and the theatres of war in the plain of northern India, did not always take place peaceably. Sometimes whole tribes penetrated into the country and wrested for themselves the land for their settlements. History names as the first invaders the Thakurs, who today settle the catchment-basin of the Bheri river in western Nepal. (Fig. 10.)

These immigrants from the south have in part been assimilated by the original native inhabitants, but partly they have fought their way up and have become the ruling upper class. Often warlike tribes

that invaded the land adopted the superior culture of the subjugated peoples, and even led them to a new "golden age" under their rule. Many warlike clans have been assimilated, especially by the Newar community, and by this admixture of the original population with the intruders, new castes and ethnic groups arose, upon which special names were bestowed.

The *Brahmans* (or *Brahmins*) who immigrated with the victorious warrior tribes from the south were able to maintain their social and religious position of superiority and pre-eminence also in Nepal; they even succeeded in introducing the Indian caste-system and imposing it, for example, upon the entire Newar community. Thus they raised the highest classes of the ancient Nepalese population to the rank of Kshatriyas, in order to gain patrons and benefactors for themselves. These new caste-members, however, were not accepted as equals by the pure-bred Kshatriyas from the Indian plain, and so they were given the new name of "Khas".

All the children of mixed marriages between Brahmans or Kshatriyas with the members of the Newar, Gurung, Mangar, Thamang, Rai and Limbu tribes were classed in this Khas group. The name *Chettri*, by which they are generally called, is probably derived from Kshatriya. They form a considerable part of the present-day Midland population (Plates 10 and 12).

Within the Khas group, again, many clans were formed, and some of these, the Pandes, Khattris, Kunwars and Ranas, have determined the history of Nepal in the past two centuries. When the Shahs in Gurkha (or Gorkha) snatched the reins of government, they were supported principally by the local Khas caste. The members of the Khas class of Gurkha developed a language of their own, which was related to the original Hindi of the Rajputs, yet differed considerably from the latter. It was later raised to the status of official national language and is known as "Gurkhali" or "Nepali".

THE TIBETAN ETHNIC GROUPS. These groups came into present-day Nepal from the north without warfare, and settled in uninhabited regions lying higher than 3000 metres above sea-level. They took possession of all the regions to the north of the principal chain, that is to say, the valleys of the Inner Himalayas and the zones to the south of the principal watershed between the Tsangpo river and the Ganges (fig. 3). Of course the high mountains prevented the settlers in one valley from having contact with their neighbours in the valleys to the east and west of them, and so they developed along comparatively independent lines. Plenty of examples of this may be found, e.g. the Humla Tibetans' original way of dressing their hair, in the extreme north-west (Plate 15). Then there are the hair-ornaments of the Tibetan inhabitants of Dolpo (as the Langu basin is called), of heavy wrought brass or gold. At Mustang, on the upper course of the Kali Gandaki river, a semi-autonomous principality was even able to develop (Plates 33-39), and Manang, beyond the Annapurna chain, with no exit towards Tibet, became the home of a tribe of smugglers (Plates 28 and 29). The individual development is most marked, however, among the Thakals and the Sherpas, who immigrated as one single tribe in the Middle Ages already. The two groups resemble each other very strongly; they settled along the important, easily practicable trade-routes between India and Tibet, and they have developed

a language of their own, related to that of Tibet. Their religion and culture corresponds to the Tibetan Buddhist form of Lamaism.

The Thakals, who live on the important Mustang route, the easiest line of communication between India and Tibet, are of course predominantly traders and merchants (figs. 10 and 17). Terraced slopes, however, prove that they used once to go in for agriculture, which has now been entirely given up on account of the dry and arid climate.

The Thakals are a quick-witted and quite affluent little people; they build fair-sized and well-constructed houses, which may be even finer than those of the Sherpas. They are big buildings with flat roofs and spacious interior courtyards (Plate 40).

The lively north-south traffic through the dangerous Kali Gandaki gorge (Plates 40, 41, and 45) inevitably led to the Thakals' adopting many elements of Indian and ancient Nepalese culture. Thus, for instance, a pagoda-like building dedicated to Indian deities stands in their chief village of Tukucha, ruled by an elected village headman. The sanctuary of Muktinath (Plate 68), which is also in Thakali territory, is visited by lamas from Tibet, by Nepalese of the most various races, and by pilgrims and *sadhus* from India. The attraction that Muktinath exerts upon all these peoples as a holy place is due to a flame that is fed by natural gas. A spring of water flows from the same fissure in the rock from which the gas issues. The High Lama of the Sanctuary told me: "God (meaning both Buddha and the Hindu deities) has made the water burn as a sign of his omnipotence."

THE SHERPAS. The Sherpas are the best-known of all the Nepalese ethnic groups. They have proved themselves skilled porters in the high mountains for the numerous Himalaya expeditions ever since the beginning of the 'twenties. The former Himalaya-Club in Darjeeling has set up an exemplary system of recruiting and registering the Sherpas, which has been of invaluable service to mountaineers from all over the world. Each Sherpa is given an official "service book" in which all his achievements and qualifications are entered with incorruptible objectivity, and many of these Sherpa books are today documents that bear eloquent witness to the history of the opening up of the Himalayas. Since a short time ago, two organizations have been at the disposal of the mountain-climber when he is recruiting Sherpas, namely, the national Nepalese "Sherpa Association" in Kathmandu, and the Mountaineering Institute in Darjeeling (India).

In the world press the name "Sherpa" is always mentioned only in connection with expeditions, and so the erroneous notion has spread that *Sherpa* is the designation for porters in the high mountains or mountain guides. But as we have already seen, such is not the case.

The Sherpas, whose excellent character has made them famous as porters in the high mountain ranges, inhabit three different regions in the high mountains of east Nepal, namely, the Khumbu valley at the southern foot of the Everest-massif, the Solu valley, which lies further south, on the upper course of the Solu river, between the Kangtega-massif and the Midlands, the third region being the valley of the Dudhkosi river, known as Pharak, which connects the other two areas with each other. Besides

this, the Sherpas have also spread to the east and to the west along the southern flank of the Himalayas. The most westerly of the Sherpa settlements are to be found to the north of Kathmandu, in the Helmu area. In the east, the deep Arun gorge forms a natural boundary (cp. relief-map).

The name *Sherpa* presumably indicates their origin from eastern Tibet: *Sher* means east and *pa* is people, so they are "the people from the east".

The Khumbu valleys are surrounded by mountains on all sides, which has favoured the development of an independent culture and a social and economic structure peculiar to itself. The altitude, viz. over 3800 metres above the sea, has forced the inhabitants to adopt a very special form of economy, namely the caravan-trade with Tibet. This again brought the Sherpas into close contact with the Tibetan monasteries—for instance with the well-known Rongbuk Monastery—and so promoted the cultural development in the Khumbu valley itself. Today the valley contains some of the most famous Buddhist monasteries, and their importance has been enhanced still more by the decline of Buddhism in Tibet. The abbot of Rongbuk Monastery, for instance, has sought refuge in the Monastery of Tengpoche. The Khumbu valley-system is the very heart of the Sherpa region; the high mountain porters come predominantly from these valleys and only rarely is one found from the Solu region. For almost four months of the year the Khumbu region is snow-bound, and the ground is frozen hard for an even longer period each year. This has forced upon the Sherpas a special form of agriculture, known as "seasonal alternating cultivation". Like the peasants in certain valleys of the Swiss Alps, above all in the Valais, many Sherpas own land and property down in the fertile valley, and they spend the summer months with their herds of cattle in the temporary "herdsmen's settlements", or *Meyen*, up among the mountain meadows, and even on the yet higher alpine pastures. These higher temporary villages are known as *phus*; they are situated up as far as the boundary of permanent snow and ice. The highest summer-settlements at the edge of the Khumbu glacier are found at an altitude of 4900 metres. The houses up there are built of unplastered ashlar walls roofed with wood or with stone slabs. Stone walls enclose the hayfields, and this also heightens the resemblance with the Swiss dairy-settlements up among the high Alpine pastures. In the rest of Nepal, hay-making is practically unknown; only in the extreme west, on the Api-massif, did I find any hay-makers in the mountains. The food supply is guaranteed at these extremely high altitudes partly by small fields of potatoes.

It is a small folk that lives in the Khumbu valley, only 2205 souls all told! They live in 596 houses, and this proves that the Sherpa families do not have large families. The Sherpas in my service had at most two children each. Khumjung, the biggest village, consists of 93 houses, and Namche, the village that has become famous on account of the expeditions, is above all a trading-centre. It is indeed a small folk up there, and all the more astonishing is the fact that it has been able to achieve world-wide fame!

In general, the Sherpa villages are scattered rather than compact, and there are fields between the houses. Farm-houses are also frequently found standing alone. The type of the houses differs both on the exterior and in the interior from all the others in Nepal. They are large, two-storied houses, with

white rough-cast or plastered ashlar walls and low-pitched gabled roofs covered with shingles or wooden planks. The Sherpa house is so characteristic that Sherpa settlements can be recognized from a great distance even outside the Khumbu valley. On the ground-floor are the farm-rooms for the animals, farming-implements, and so on (corresponding to separate farm-buildings, sheds, stables, out-houses, etc. in England), while the upper floor consists of a single large living-room. The hearth, the actual centre of family life, is situated in a corner by the side of the staircase. The interior furnishings are very similar to those in a fine old house in the mountains of the Valais. Magnificent brass and copper vessels gleam on carved wooden shelves. Along the walls stand carved wooden chests, in which clothes and household objects are stored. Along one of the walls, adjoining the hearth, stands a bench behind a narrow table.

The Sherpas' hospitality is unbounded; every visitor, foreign or native, is at once treated as a member of the family and is given a seat by the fireplace. The wooden cask or jug filled with *chang*, which is always ready at hand, is passed round and every meal is shared. Here, by the cosy hearth, in the family circle which includes the guests, business is transacted, the women suckle their babies, loud laughter greets the coarse jokes, and now and again, when spirits run high, a Sherpa slowly begins to tell one of the terrifying "yeti" tales.

In the temporary settlements below the main villages, in the so-called *gunsas*, buck-wheat, turnips, and a spinach-like plant are grown. Potatoes, too, are planted; they were introduced only recently, probably by Sherpas who had lived in Darjeeling. Today, however, potatoes are the staple food of the Sherpas, and not *tsampa*, barley-meal eaten uncooked or stirred into milk to form a mash, which is still very popular. The Sherpas prepare a tasty dish called *gurr* from potatoes. Raw potatoes are grated, butter and spices added, and then the flat potato-cake is baked on a hot stone—a form of griddle cake! Undoubtedly practical considerations have helped to spread *gurr* widely: at these altitudes (Khumjung, for instance, lies 3900 metres above sea-level), the water for the potatoes comes to the boil fairly quickly (at c. 80° C. or 176° F. at 5000 metres), but the potatoes take a long time to become sufficiently cooked at such low temperatures.

Cattle-grazing up on the high-lying alps, or mountain meadows, has given rise to a community that bears a great resemblance to the old Swiss "commons" and corporations. The inhabitants of Sherpa villages own pastures and woods in common; the latter is extremely important, as wood for fuel is very rare in the Khumbu valley. As we shall see later, the village communities take great care of their precious woods by means of special legal regulations and by appointing a "forest-ranger" or warden. The use of the pasture-land is also regulated in a similar way.

Cattle-breeding and cattle-dealing are favoured in the Khumbu valley by various factors. In the first place the valleys are fertile, thanks to the morainic surface-soil, and this has made the formation of extensive pasture-lands possible. Besides these, however, very little else but sturdy mountain-grass thrives at these altitudes. Now, the much-frequented Nangpa La (La = pass) links the Khumbu basin with Tibet, where no cattle-breeding can be carried on, owing to the arid climate and the scanty steppe

vegetation. It was therefore obvious that cattle should be bred for, and exported to, Tibet; moreover, the Khumbu region also supplies cattle to the lower-lying Sherpa area of the Solu region. Besides the pure yak—high mountain cattle—it is especially animals cross-bred with Nepalese cattle that are in great demand. It is only the *zhum*, the female product of cross-breeding, that is fertile; they also give more milk than the pure parent. The male cross-bred cattle (*zopkeio*) are especially suitable for beasts of burden. Milk-cows are consequently sold above all to the Midlands, whereas the pack animals find a ready sale for the trade-caravans in Tibet.

The possession of yaks is a question of prestige among the Sherpas; cattle-breeding and alpine dairy-farming are considered “finer” occupations than tilling the soil and farming. Sherpas who have served on expeditions frequently invest their savings in herds of cattle.

Of course the dairy-produce, especially yak-butter, plays an important role in their own diet. Yak-butter is also used, however, in the preparation of the salted Tibetan tea and above all as fuel for the sacrificial lamps in the monasteries. It is also exported in great quantities to Tibet. In summer the yaks are shorn, and hand-woven, durable blankets and mats are made of their woolly hair.

The Sherpas’ religion forbids them to kill animals, but they like meat, nevertheless. For this reason, butchers from Tibet are sent for every year to slaughter a few yaks. Dried and smoked yak-meat is exceedingly tasty and is reminiscent of pemmican or of “Bündnerfleisch”, a speciality of the Grisons in Switzerland.

However, the Sherpas owe their standard of living, which is high for Nepal, not only to agriculture, but above all to trading. Their situation on the Nangpa La, an easy pass into Tibet in spite of its altitude (5806 metres above sea-level) and its glaciers, enables them to carry on intensive trade (cp. relief-map). They are the only tribe besides the Thakals on the Mustang-route to have built up an organized trade with Tibet and even with India. On the numerous other passes into Tibet, most of which are even easier to cross, the salt-trade has scarcely been organized at all on the Nepalese side. Today, of course, since the frontier with Tibet has been closed by the Chinese, this trade is a thing of the past. Undoubtedly the entire economic structure of the Sherpas (especially in the Khumbu region, rather less in the Solu region) has been severely shaken by this state of affairs. Nevertheless it seems to me fitting to devote a few sentences to a more detailed account of the Sherpas’ trade.

Of course the Sherpas had no goods of their own besides their cattle and dairy-produce with which to carry on trade. They were therefore first and foremost middlemen, who traded in various products with Tibet, the Nepal Midlands and India. From Tibet they imported principally salt, which is not found in Nepal. Another important commodity was wool. They exported, besides their own cattle and butter, above all rice, paper, sugar, dyestuffs and kerosene. In former days, iron extracted in the Nepalese mines at Thos was also of importance; but for some time now the Sherpas’ once-profitable iron-trade with Tibet has been at a complete standstill. The reason for this is probably that the newly-opened route to Tibet via Kalimpong is considerably more convenient. Moreover, the salt-trade with the southern Midlands had already begun to fall off a long time before the Tibetan border was closed,

for since the improvement of the roads from the south, the Indian salt has become cheaper (cp. figs. 17 and 18).

As on the other routes in Nepal, the Sherpas used to barter the salt partly for rice, the relative value of the barter-goods, of course, depending on the trading-place. In the north, salt was cheap and rice rather expensive, owing to the long distance it had to be transported; but the further south one went into the rice-growing areas, the more expensive did the salt become. At Kyetrak, for instance, the first Tibetan settlement to the north of the Nangpa La, seven to eight measures of salt were exchanged for four dry measures of rice. In the villages inhabited by the Rais in the Midlands, on the contrary, the Sherpas could get three to four dry measures of maize, millet or rice for one measure of Tibetan salt.

As a result of the trade with Tibet, however, connections with China were also set up. In the Khumbu valley, surprisingly many Chinese products are found in the houses of the wealthier Sherpas, above all valuable painted porcelaine, jewellery, silk fabrics and gold brocade. Recently even the characteristic blue materials of the People's Republic have been introduced.

On the other hand, the Sherpas are in general not so good at handicrafts. They build some of their houses themselves, it is true, but there are hardly any goldsmiths or silversmiths among them, and still less ordinary blacksmiths. The magnificent paintings in the monasteries were mostly executed by Tibetan monks or by Newar artists.

In the year 1951, Democracy was introduced into Nepal; but the Sherpas had long before had their village communities, which were based upon a democratic principle. In this respect they were far ahead of all the other ethnic groups in Nepal. In the whole of the Midlands, voluntary communal arrangements for the use of woods and pastures are almost unknown. All authority proceeds from the villagers *in toto*, and as in modern democracies, their legislative is separated from their executive. A public village-assembly promulgates the laws; it also elects two especially esteemed members of the community to act as village and forest "wardens", or keepers.

The village-warden regulates the use of the common pasture-lands, and it is also he who decides the day in July on which the last of the cattle must be driven out of the village; for the ripening corn must be protected from stray cows.

The forest-warden sees to it that no trees are felled without permission within the protected zone, and that only dry kindling is taken home from the protected woodlands. He is also entitled to give permission to fell the necessary timber for the construction of houses, bridges, or temples. He may also inspect the wood supplies in the houses if they seem to him to be suspect, and he even has the right to fine offenders. He is not responsible for his decisions to any higher authority. Even the village-council cannot revoke his orders, but at the most they can give expression to their discontent by not re-electing him to the office at the next election.

The family life of the Sherpas differs greatly from that of the other ethnic groups. Each newly-married couple sets up a household of its own as soon as possible; for the Sherpas are too individualistic to feel comfortable in a family-community comprising several generations, such as is otherwise usual in

Nepal and also in India. As regards sexual morality, the Sherpas are very free. Thus every adult unmarried Sherpa is free to have sexual intercourse, on condition that he obeys the commandments of the family and so long as the lovers do not belong to different social classes. Therefore lovers do not need to have hole-and-corner affairs, and the young men go up without embarrassment to the common living-room at night, when the fire on the hearth has gone out. In spite of this astonishing freedom, illegitimate children are rare. Once they are there, nobody is shocked. Premarital offspring are even regarded as something quite fairly normal, for there is often a long period between engagement and marriage. In general, the young Sherpas are free to choose their marriage-partner, and it is very rare for an engagement to be made in childhood, such as is very common in the Hindu Midlands.

After the two young people have plighted their troth, which is accomplished when the girl's parents accept a wooden jar full of *chang*, the young man has the right to visit his betrothed at night in her parents' house. Engagement, however, by no means signifies sexual fidelity; it is merely the announcement of the willingness to marry. The marriage generally takes place only after the couple are convinced that they suit each other. Evidently both partners are allowed the right to have a thorough and comprehensive trial, for sexual escapades during the period of engagement are not taken very seriously. The marriage ceremony is an important and gorgeous affair; for a Sherpa's social standing can be recognized by the number of the guests and the sumptuousness of the wedding reception and feast. On one occasion I had the privilege of attending the marriage feast of the daughter of my Sherpa Sonam, of Chaunrikharka. The preparations began early in the morning: new prayer-flags and banners were printed on Sonam's wooden printing-blocks; then the pennons were hoisted with special ceremonial on tall posts set up on the roof of the house and in the front courtyard. A procession of almost all the inhabitants, led by the village lama, then moved to a small shrine above the village, where Buddha and the local deities were asked not to withdraw their favour from the young bridal couple. The women and girls wore their most beautiful silk dresses and all their jewellery of gold and semi-precious stones. During the ceremony a considerable amount of the home-brewed beer was drunk. The bride and her mother, however, stayed at home, busy making preparations. The rice boiled in huge pans, countless chickens had been killed, and great barrels full of *chang* awaited the returning procession.

The bridegroom lived about two hours' march away on the opposite side of the valley. He was to have arrived with his procession at about noon; but at 3 o'clock he still had not come, so the father of the bride took pity on his hungry guests and began serving the meal. Of course the bride now became the butt of many coarse jokes, as I concluded from the bursts of uproarious laughter.

The feast continued until late in the night without any signs of the bridegroom. He arrived only the next morning with his retinue, and he was greeted as if nothing untoward had happened. It had been very hot, he explained laughing, and so the company had drunk too much *chang*. So once again rice was served and fresh beer was brought in. Sonam could very well afford it, for the money he had saved in my service he lent out at a high rate of interest or invested in trade. The whole feast was simply repeated the next day, and everybody was satisfied.

The absence of the menfolk in the high alpine pastures or on trading expeditions, which often take several months, has led to a special form of matrimony among the Sherpas, polyandry, one woman having several husbands. Especially frequent is the marriage of one Sherpa woman with two brothers; for besides the advantage of always having one husband at home, this system also prevents the splitting up of the land, and favours the formation of natural, connected farms. Polyandry is in no way a symptom of poverty among the Sherpas, for even wealthy families practise it, and jealousy between the two husbands is unknown. On the contrary, such marriages are often remarkably successful. Excessive abuse of polyandry is restricted by the fact that a second husband cannot later be added to a monogamous marriage. The children are supported jointly by both husbands; mostly even the husbands themselves do not know whose children they are.

Conjugal infidelity is no ground for divorce. A cuckold has only the right to demand a fine of 30 rupees from his rival. Very often, however, the husband waives his right to the fine, especially if the seducer is a good friend or even a lama. Politeness then requires that the whole matter should be amicably settled over a bottle of *chang*. Divorce is, however, always possible at the request of both, or even of only one, of the marriage-partners. In the former case it takes place in the course of a small ceremony, and the woman hands her husband a rupee as a symbolical repayment for the expenses of the marriage ceremony. If the husband does not want the divorce, his successor has to pay him an indemnity, or compensation, of 35 rupees, that is, about five American dollars, or about £ 1. 16. 0. It would be quite wrong to believe, however, that conjugal fidelity is not required by the moral laws of the Sherpas. Even if no fuss is made about adultery, the participants do suffer a loss of their stock of religious merit. The Sherpas' lamaistic culture means that religious conceptions and rites play an essential role in their whole lives. Thus, for instance, every village has its temple, and there are innumerable prayer-walls along the mountain tracks, mountain streams drive prayer-wheels, prayer-flags flutter on all the houses, and on mountain pathways one often meets friendly monks in their red cowls and robes, telling their beads on the rosaries in their hands, and murmuring Buddhistic prayers. My Sherpas were even frequently sunk in deep prayer during the march. Many well-to-do Sherpas have small private temples in their houses. They often contain valuable pictures painted on cloth, so-called *thankas*. My Sherpa Sonam also owns one of these private chapels. Set up in it as specially precious objects of devotion are 1000 small stone Buddhas which were carved by Sonam's family in generations of loving toil. The centres of the Sherpa culture and learning are, of course, the monasteries, some of which have become very famous. Tengpoche, the best-known monastery, and today the spiritual centre of the Sherpas, is not yet 40 years old. It is proof of the deep faith and the spiritual vitality of the Sherpas that such newly-founded establishments can and do maintain their position vigorously, while in other places old cultures are gradually crumbling.

The organization of the monasteries is, however, different from that of the Tibetan ones: the monks, who live in settlements of bungalow-like dwellings grouped round the temples, have to support themselves. This, too, is undoubtedly one of the forms of expression of the Sherpas' individuality, for

only with difficulty can they be forced to fit themselves into a strict organization with community meals. The Sherpa monks have a small household of their own, which they may share with one friend at the most. Hence only the sons of wealthy parents are able to embrace the monastic life; on the other hand, it is just this restriction that guarantees a certain spiritual level. The man who enters a monastery as a monk is given his share of the family fortune. He can secure a steady income by lending this money; for among the Sherpas a very high rate of interest—as much as 25 %—is paid for it. Only the expenses attached to religious services and rites are paid for out of monastery funds, that is to say, tea, *chang*, and butter for the little oil-lamps.

The Sherpa ethic is founded on the Buddhist teaching, and thus fundamentally on the idea of re-incarnation. Every good deed increases the stock of religious merit, known as *sönam*. Every evil deed, on the contrary, reduces the *sönam*. At death, the balance is drawn, and the fate of the man in his next life depends on his *sönam*. By constant accumulation of *sönam* one can ultimately be set free from the obligation of re-incarnation and so also of all suffering. People who have acquired so much *sönam* that they would be entitled to enter Paradise after their earthly death, may yet return to life as a re-incarnation if they want to, and serve mankind as a lama. The abbot of Tengpoche Monastery is said to be one of these re-incarnations.

The Sherpas, with their sense of reality, have composed a practical guide to the ways to gain *sönam*. These come under three principal headings, namely, religious acts, relations with one's fellow-men, and with animals. It is true that in most of the great religions one can deserve reward in the next world by obedience to laws. The consequences of these doctrines on the daily lives of the Sherpas is fascinating to see: deep respect for the dignity and independence of one's fellow-creatures, and genuine, active charity. Thus, for instance, *sönam* may be gained by helping the poor, by bringing about peace, and by forgiving an offender. Slander and the like are consequently entirely unknown among the Sherpas. If, for instance, a monk and a nun live together as husband and wife, which is contrary to the law, nobody will bear them a grudge. They have broken a vow, and they will have to pay for it in the next life; but that is their own affair, and their fellow men and women do not worry about it.

Strife, theft, fraud, slander, the killing of any form of life, etc., are acts that lead to a reduction of *sönam*. But the regulations go still further: whoever makes a child cry, even, loses some *sönam*.

Surprising for this race of mountain-peasants, herdsmen and merchants is their belief that knowledge and virtue are of equal value. For them, too, the words of the Sermon on the Mount hold good: "Blessed are the poor in spirit"; a pure heart is closer to God than any amount of knowledge of the scriptures. In contrast to the world of the West, the Sherpas of Khumbu do not admire the sport "aces", the clever businessman, the stars, but the wise, self-controlled, kindly man of peace! Does the reader from the technically developed and seemingly progressive West recognize here the superiority of that sturdy mountain people from Mount Everest over our own materialistic way of thought and action? And is it not just those virtues that result from the belief in *sönam* that have made the Sherpas the world-famous porters that they are?

If anyone wishes to learn more about this people, he may turn to the works of Christoph von Furer-Haimendorf. It is to the credit of this author that he has given the world a pre-eminently scientific account of the life of the Sherpas.

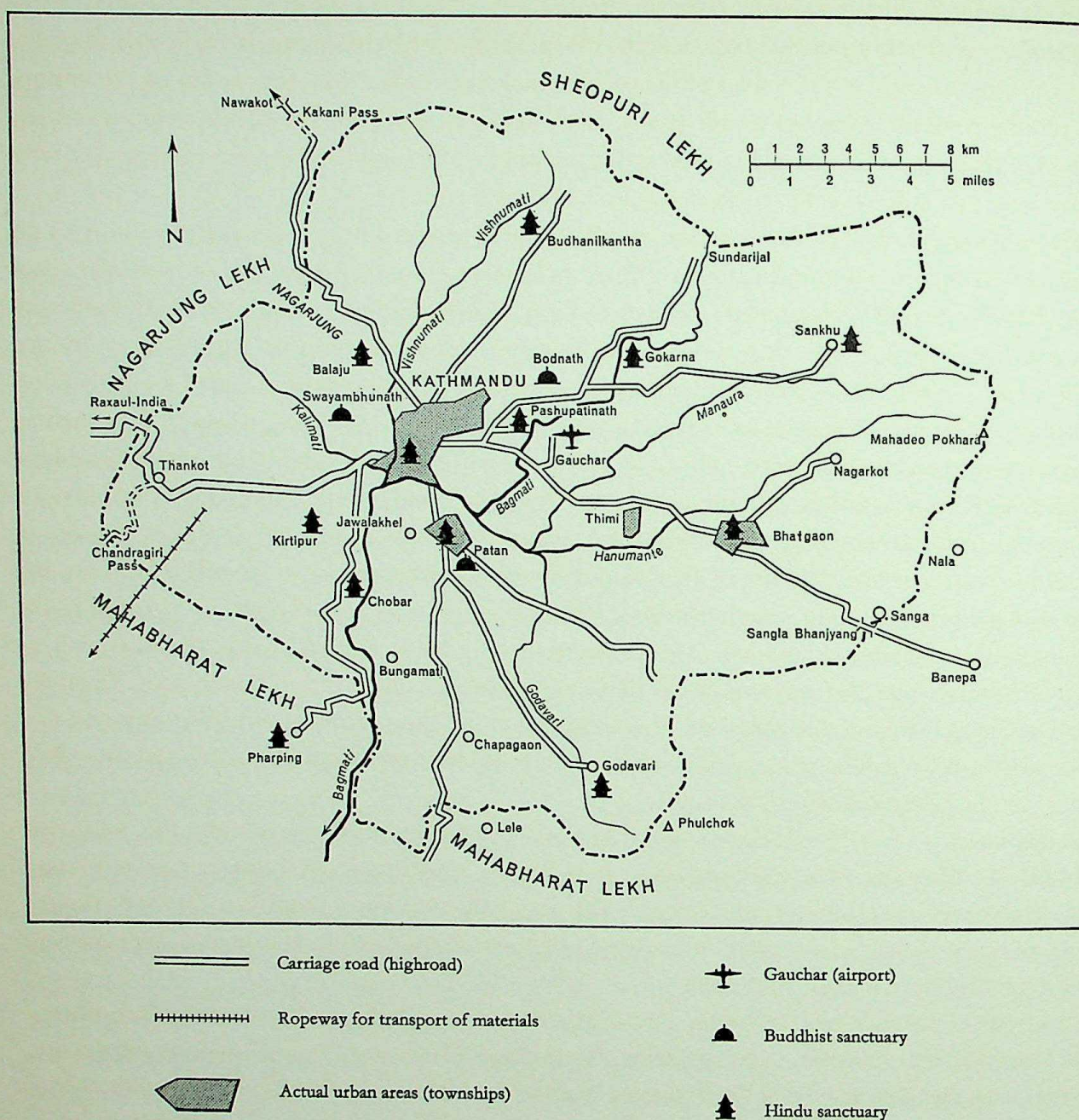
A Survey of the History of Nepal

THE RISE OF CULTURE. Until the beginning of the 19th century, the history of Nepal is essentially the history of the valley of Kathmandu, the capital. Its importance finds expression even in the name. The inhabitants generally call the Kathmandu valley the "Nepal Valley" or "Nepal", for short. Thus, for instance, a peasant-farmer that one happens to meet 30 kilometres away from Kathmandu, if asked where he is going, will answer laconically: "Nepal tsannee—I am going to Nepal". And here in the Nepal Valley, too, took place the astonishing cultural rise of this mountain people. There is a rich treasury of legends that tell of the origin of this land and its people (Plate 58). Actually, there is no really genuine historical account of Nepal, for the local chronicle of Vamjavali, with its dry enumeration of the rulers and their virtues, can hardly claim to be called that. We are therefore, still today, dependent chiefly upon the reports of foreigners as regards the early history, that is to say, the accounts of Chinese or Indian pilgrims, the writings of envoys and Christian missionaries, and so on. There are undoubtedly important historic documents preserved in the old temples, but the investigation and interpretation of these inscriptions and manuscripts have not yet really begun.

It is assumed that, from the year 700 B.C. onwards, the Kirantis ruled, that is to say, the ancestors of the present-day Rais and Limbus, which also included the Newars. The Kirantis are mentioned for the first time in the Vedic literature—the sacred writings of the immigrant Aryans—and in the Mahabharat, one of the two great Hindu epic poems, they are described as the inhabitants of the north-eastern Himalayas. They ruled until somewhere about 100 A.D., and Buddhism was probably introduced into Nepal under one of their early rulers. At any rate, the oldest documents of history and culture which tell of the birth of Gautama Buddha (560 B.C.) date back to this period. His birthplace is near the little town of Rummindei (also called Lumbini), in the Nepalese Terai, not far from the Indian border. In 1895, the German explorer, Alois Anton Furer, found there in a thicket the inscribed memorial pillar, which his disciple, Emperor Ashoka, had had erected around 250 B.C. in commemoration of his pilgrimage to the birthplace of the Enlightened One.

Buddha is said also to have visited the Nepal Valley in the course of his wanderings, and it seems that Ashoka followed his traces there, too. At all events the four old *stupas* of Patan are also ascribed to him. These constructions are not, however, actually *stupas* such as were erected above the relics of Buddha, but so-called *chaitiyas*, which are a reminder of the four ages of the world. On the other hand, the famous temple of Swayambhunath, with its huge dome, may be a genuine *stupa* (i.e. burial mound), and it is probably one of the oldest of the Buddhist monuments. The most recent investigations have proved

FIG. 14 *Sketch-map of the Kathmandu Valley*



that it was not actually built by the monarch Ashoka, but that the latter only had it enlarged around the year 250 B.C.

To obtain a definitive answer to this question, the *stupa* would have to be opened. This is, however, impossible at present, for it is in general strictly prohibited to open the burial chambers of the *stupas*. The best opportunity to search the chambers for relics or deeds of foundation was missed in 1825,

when the *stupa* had to be opened in order that the wood pillar supporting the crown of the monument, which had split during a storm, might be replaced.

The Chinese traditions of that time describe the inhabitants of Nepal as repulsive, fierce and crafty; but the great luxury at the court and the peculiar buildings made a deep impression on the visitors. The king possessed immense wealth, pearls, precious stones, and gold. The people were passionately fond of music and dancing, and in general they applied themselves intensively to astrology. The same characteristics still strike the visitor today in the Newar people.

The rulers who followed after the Kirantis had mostly immigrated from India; but the history of the succeeding centuries is veiled in mystery. Thus, for instance, absolutely nothing is known today about the Licchavi period, which lasted from 350–630 A.D. The Thakuris, too, originated from India and, in contrast to the Lichavis, they are still today found all over western Nepal. (Fig. 10.) They invaded the Nepal Valley as conquerors, forming a new upper class, which gradually adopted the higher culture of the Newars. The founder of their dynasty, Amshuvarman (630 A.D.), seems to have been an open-minded and tolerant ruler. Himself an ardent votary of the Siva-cult, he not only tolerated the teaching of Buddha, but he even promoted it indefatigably. From this time, too, date the first historic accounts of Chinese monks, who visited the Nepalese consecrated places of pilgrimage, the shrines and sanctuaries, which were already famous at that time. In his endeavour to extend his influence and to increase his connexions, Amshuvarman gave his beautiful daughter Bhrikuti in marriage to the King of Tibet and founder of Lhasa, Srongbtsan Sgampo, as his junior wife, in 630. Together with his senior wife, an imperial Chinese princess, Bhrikuti zealously sought to spread Buddhism in Tibet. We know quite a lot about this period because, according to the Tang annals, the Chinese set up the first embassy in the Nepal Valley in the year 646. It is quite possible that the Nepalese pagoda-style was taken over by the Chinese at that time already.

In consequence of her good relations with China, the prestige of Nepal rose in India, too, where the Nepalese ruler was now acknowledged as a fully-fledged Kshatriya. Even if history does not repeat itself, recent events exhibit an astonishing similarity with the situation of those days: by the consolidation of her relations with the powerful northern neighbour, Nepal has brought about an improvement of the Indo-Nepalese trade agreement.

As a result of this enhanced esteem, the cultural relations between India and Nepal – shrewdly furthered by connexions by marriage – were gradually strengthened. (The name “Nepal” appears for the first time in the year 879, signifying the beginning of a new era.) How close the cultural and political relations between Nepal and India were at that time is seen from the fact that the republican tribal organization in the Nepal Valley was considerably weakened when the Gupta dynasty introduced a vigorous renewal of the Siva-cult in India and also a pronounced monarchic system.

There were two religious factions at that time among the Buddhist monks of Nepal: the so-called “Lesser Vehicle”, the stricter, more Puritan and conservative original form, and the “Great Vehicle” (or “Way”), the laxer and more liberal trend, which recognized *Bodhisattvas* and other divine beings as

well as five Buddhas. But the people partly continued to pay homage to the old spirits of the nature religion. So the ground for the third phase of Buddhism, the "Adamantine Way", was already prepared in Nepal. The monk Atisha, especially, the representative of the "Thunderbolt-doctrine" and promoter of Tantrism, spread the new sect, in which magic formulas and initiation cults played a great role. The new doctrine was so well adapted to the old popular cults that they even adopted the veneration of female deities and erotic rites. Still today one may find on the beams of the pagoda-temples wood-carvings depicting strange erotic acts.

Buddha's teaching, it is true, was robbed more and more of its original content by such changes; the "counter-reformation", the development of Brahmanism, was the natural consequence. This movement of revival made no headway in Nepal, though it did in India; on the contrary, the Tantric magic doctrines continued to spread. Even when, in about the year 1200, Abhaya Malla dethroned the Thakur rulers and established the orthodox Hindu Malla dynasty, which originated from India, Buddhism continued to hold its own vigorously.

In Sanskrit, the name Malla signifies "boxer", "athlete", or "victor". And for Nepal a new era began with the Mallas, whose family is known from the history of southern India. At first, however, the Malla rulers encountered great difficulties. Princes from India, native Khas caste-members, Mangars, and naturally also the banished Thakur families, contested their right to rule in Nepal. Even the Moslem leader, Sultan Shamsuddhin Illyas of Bengal, invaded Nepal to plunder, pillage, and sack.

Important for the development of the country in those turbulent times was the introduction of the Brahman hierarchy by Hari Singh, the king of Tirhut, who had had to retreat before the Mohammedan invasion in the exodus from the plains of India. But it was left to Jaya Sthithi Malla to restore law and order, and subsequently the Malla kings led the country to an unrivalled and unique "golden age" of culture, which lasted for over 300 years.

In the 14th century, Jaya Sthithi Malla regulated the society of the country according to the severe orthodox caste-laws. All the Buddhists were classified into 85 Hindu castes, according to their professions; many of these castes, however, no longer exist today.

The monks then married and took up professions, becoming goldsmiths and silversmiths, and with their families they populated the former Buddhist monasteries. They also continued to perform as before their service in the temples.

Of the Malla kings, Jaksha Malla must be especially mentioned. During the fifty years of his reign, he extended his power far beyond the Nepal Valley. In 1488 he divided the kingdom among his four heirs, and the four small kingdoms of Kathmandu, Bhatgaon, Patan and Banepa persisted until the Gurkha conquest. They vied with each other in building beautiful palaces and temples, while poets and musicians were welcome guests at their courts (cp. Plates 60-65). It must also be added that there was also great rivalry between them, and it was this that set a seal to their fate. When the Gurkhas conquered the land, it was not due only to their superiority, but above all to the fact that the Malla kingdoms could not agree on a common plan of defense at the decisive moment.

THE GURKHA RULE. An end was put to the flourishing culture of the Nepal Valley when the Gurkhas (in the narrow ethnological sense) conquered the country. The campaign began from the little town of Gurkha (or Gorkha), of which a legend relates that it was founded by Gorakhnath at the foot of the holy castle (Plates 66 and 67). A warlike tribe of the Rajput Kshatriyas had settled there, having been driven out of Chitor (India) in 1303 by the Sultan, Alau-d-din. The Rajputs first fled to the shelter of the hills of present-day central Nepal, and in successive generations gradually spread by stages to Nuwakot Kaski and Lamjung into the region of Gorakhnath. In 1559, with the support of the local Khas caste, they succeeded in overpowering the prince, Khadga Raja, who resided at Gurkha.

When the Gurkhas, as the Rajput warriors were henceforward called, had remained quiet for two centuries, their king, Prithwi Narayan, set out in 1766 on a campaign of conquest, which soon made him the ruler of the whole country. In further campaigns he conquered parts of India, namely, the Terai, Kumaon, Garhwal, Simla, and Sikkim, but also large areas of the Tibet plateau and the valleys of the Inner Himalayas (cp. fig. 3).

Towards the end of the 18th century, that is to say at the time of its greatest expansion, the kingdom was about twice as large as it is today. The language of the Gurkhas—a variant of Hindi, which belongs to the Indo-Aryan group of languages and which is written with the Sanskrit characters—was raised to the status of the official national language.

The present King of Nepal is a direct descendant of Prithwi Narayan, who within the space of a few years laid the foundations of the kingdom as it exists today. His immediate descendants, however, were not very capable rulers, and after his death in 1771 there followed a century of bloodshed in the history of the country. Children occupied the throne, often even madmen, and since bigamy was permitted, rival queens waged a fanatical struggle for power in the state, which did not stop short of intrigue and murder. It was inevitable that Prithwi Narayan, with his policy of extending his possessions and increasing his influence, should come into conflict with another power equally set upon expansion, that is to say, with the old East India Company! In 1768, when Prithwi Narayan conquered the Malla kingdoms, the English sent the first troops against him. The Gurkhas repulsed this first British detachment, and were also victorious in subsequent engagements. The British command realized that only a tremendous superiority in numbers would be able to overcome this small nation of mountain-people, and they therefore advanced with 30,000 soldiers and 60 cannon. 12,000 Gurkha soldiers met the attack. With a mere 600 soldiers, the Gurkhas held one of the strongholds for a long time, inflicting great losses on the British forces under General Gillespie; when the situation became hopeless, the 90 surviving Gurkhas fought their way through the ring of besiegers with the courage of despair. Even two further British expeditions were unable to conquer the Gurkhas conclusively. Only the superior tactics of General Ochterlony succeeded in opening up the way to the capital, Kathmandu. The Gurkhas at once drew the right inference from their defeat, and they prevented the occupation of Kathmandu by signing the peace treaty of Sagauli in 1816. By this treaty, Nepal had to cede Sikkim and parts of the Terai, and it had also to submit to having a British Resident in Kathmandu.

The war of the Gurkhas against the British, and above all its consequences, remind one of the victory of the French troops over the Swiss at St. Jakob on the river Birs in 1444. The British, like the French, were greatly impressed by the valour and the military efficiency of the enemy, and they succeeded in making allies of the conquered foe, who supplied them with excellent soldiers for further campaigns. The Gurkhas, too, recognized the economic importance of mercenary service, and still today the incomes of former mercenaries from British and Indian pensions really forms the economic backbone of large parts of the country.

Fortunately the British Residents displayed understanding and patience. Without interfering in the internal political situation, they encouraged the stabilization of the young kingdom. Many of them were excellent connoisseurs of the country, and they produced the first fundamental and scholarly works on Nepal. The struggle for power between the rival queens and leading aristocratic families continued, however, in spite of the outward consolidation of the situation.

THE RANA DYNASTY AND MERCENARY SERVICE. Jang Bahadur Rana, a young nobleman, introduced a new period in Nepal's history. During his lifetime stories were already told about his matchless valour; for instance, he is said have killed tigers unarmed except for his Nepalese *khukri*, a broad, curved knife or short sword. When he was Prime Minister, the then queen tried to involve him in intrigues and conspiracies, asking him to kill the two sons of the senior queen, the latter having meanwhile died, and to put her own son on the throne. Jang Bahadur refused and even threatened the queen that he would accuse her of incitement to murder. Of course she tried to get rid of the refractory Prime Minister, too; the plot was discovered, however, and the Council banished the King and Queen to India.

The King, it is true, returned to Kathmandu in 1847, but he was little more than a prisoner of the Prime Minister and at all events no longer in a position to exert the slightest political influence. Only at receptions did Jang Bahadur assign representative duties to him. This strange dependence of the royal family on the respective Prime Minister lasted until 1950.

Jang Bahadur was, on the whole, a magnanimous and enlightened dictator—but he was nevertheless a dictator. He had power over the life and death of the subjects, he alone determined the relations with foreign countries, declared war or signed peace treaties. In 1850 he travelled to London with a large retinue, surrounded by true oriental pomp, and delivered to Queen Victoria a message from the King of Nepal. Jang Bahadur was the first great Hindu ruler to venture to visit the Occident. In 1856 he conferred upon himself the hereditary title of maharaja, and thus the office of the Prime Minister also became hereditary. He died in 1878 on the banks of the holy Bagmati river in Kathmandu, and in accordance with Hindu custom his three widows mounted the funeral pyre with him.

The succession had been ordered by Jang Bahadur in such a way that the title of maharaja was always to pass to the next-youngest brother; only when there were no legitimate brothers left did it pass to the eldest representative of the next generation. This law of succession, which seems strange at first

sight, nevertheless had its justification: having learnt from the unfortunate rule of succession in the Gurkha dynasty mentioned earlier in this text, Jang Bahadur wished to prevent this important office from ever falling into the hands of children. Of course even he could not prevent struggles for power from breaking out again among his successors. Now and again the period of waiting became too long for one of the younger brothers, and then he quite naturally tried to hasten the course of events. Thus it was not the direct descendants of Jang Bahadur that became Prime Ministers, but the sons of his second brother, General Dhir Shamsher, who had been the Commander-in-Chief under Jang's successor. By tradition, the holder of this post was considered to be the probable successor or "heir presumptive" of the Prime Minister. When the sons of Jang Bahadur bestirred themselves to seize power after the death of Dhir Shamsher, they were murdered by General Dhir's sons.

The Shamsher dynasty now gave Nepal a great Prime Minister in the person of Chandra Shamsher (1901-1929). With iron hand and statesmanly wisdom he restored order and security; he abolished internal Customs dues, a source of income for the corrupt officials, and he began to reward state services and special achievements with money and no longer, as before, with the gift of tax-free land, the so-called Birta-land.

Almost all the technical achievements in present-day Nepal are due to Chandra Shamsher; for instance, he built two small power-stations to supply Kathmandu with electricity; he had the telephone installed and a road built from the Indian frontier to Bhimphedi, at the foot of the mountains. He desisted, presumably deliberately, from continuing the road across the Mahabharat-chain and into the Nepal Valley in order not to jeopardize the voluntary isolation of his country. In order to facilitate the transport of materials, he ordered the construction of the electric aerial suspension railway of Dharsing to Thankot, which is still working today. (Fig. 14.) At the present moment the Government is having a more efficient aerial cableway constructed over the same stretch with the technical aid of the USA, the construction of the expensive modern roadway not having brought about the economic improvement hoped for. This shows with what foresight and how shrewdly Chandra Shamsher made his decisions in his day. He did not, therefore, restrict the opening up of the country only to the Nepal Valley: remote and isolated towns, such as Jajarkot, Pokara and Dhankuta, received a supply of drinking-water, and the bold suspension-bridges with steel-wire rope supports, which can still be crossed by pack animals today, form the mainstay of the network of communications in Nepal; their number, it is true, has been greatly reduced in recent years, because nobody cares for their upkeep.

Theft, robbery and other crimes are almost unknown in Nepal, for which reason the judicial and general safety is great. This happy circumstance is not, however, due to the honesty and good character of the Nepalese alone, it is largely also owing to Maharaja Chandra Shamsher, who founded Chandra College, the first "middle" or high school in Nepal, and who abolished slavery. The latter was not as inhuman in Nepal as elsewhere, however, but the great landowners could nevertheless summon their subjects to compulsory statute labour and requisition their entire possessions, even the domestic animals. Nepal, surrounded by mountains on all sides, where life is so greatly bound up with religious traditions

and magic conceptions, cannot be compared with Western states. This must be taken into account when one considers Chandra Shamsher's reforms; at that time they were absolutely revolutionary! Even today the democratic government is having to fight hard against the antiquated ideas that stand in the way of making the country accessible and which are an obstacle to its development. It is therefore understandable that Chandra Shamsher could not be successful in all spheres in his own day. For instance, it was not possible for him to reorganize the army and to raise to the rank of officers and entrust with commissions the experienced soldiers of the Mangars, the Gurungs, the Thamangs, Rais and Limbus. All the higher ranks in the army and administration remained the privilege of members and relatives of the royal family, the Rana dynasty, and other noble families. Thus, in those days, Nepal was teeming with infant generals, and only very few officers of higher rank could actually look back upon active service.

After Chandra Shamsher, four more maharajas of his dynasty ruled. They did not, however, possess anything like his abilities. Even though, inspired by good resolutions, they wished to continue in his footsteps, they were unable to enforce their will against the opposition within their own families. The nobles feared, quite rightly of course, that any innovation would bring about a further restriction of their hereditary privileges, and they resisted them doggedly and tenaciously. Some of the more progressive of the Ranas were therefore obliged to retire into exile in India.

All the maharajas of the Rana dynasty were well aware of the advantages of friendship with British India, even if they did not cease to guard their own independence carefully. In 1857, Jang Bahadur Rana even gave military aid to the British garrison to suppress the great Indian mutiny, and in gratitude for this timely assistance a fair-sized strip of the Terai territory that Nepal had had to cede 43 years earlier by the Treaty of Sagauli was restored to her. Nevertheless, to prove his independence to the British government he granted asylum to the fugitive leaders of the mutiny.

Frequently Englishmen were invited to magnificent hunting expeditions in the Terai. When King George V was staying in India in 1911 for his coronation as Emperor of India, he spent ten days in the Terai as the guest of Maharaja Chandra. The august guest was provided with every possible comfort in the camp, such as hot and cold running water and electric light. Six hundred elephants and 10,000 Gurkha soldiers were levied for the tiger shoot. The English King's personal bag consisted of 21 tigers, 10 rhinoceroses, and 2 bears. General Keshar, the son of the Maharaja, presented the Zoological Gardens of England with a valuable collection of rhinoceroses, elephants, bears, tigers, leopards, snow leopards and various small game. George V, in return, conferred upon the Maharaja the honour of the Grand Cross of the Royal Victorian Order, and also made him a gift of 2000 modern rifles and five million cartridges.

Altogether, Britain has shown herself benevolent towards Nepal. As a reward for her help during the Great War of 1914-1918, Nepal received a new treaty of friendship with British India, who in return raised the British Residency in Kathmandu to the rank of an embassy. Furthermore, Britain pledged herself unconditionally to pay Nepal one million rupees annually and she granted Nepal the right to

the free and unrestricted import of goods, including arms, munition, machines, apparatus and industrial equipment, across India into her own territory. How generous this arrangement was, the Nepalese realized for the first time when, in 1947, the rights of the British Indian Colonial Administration passed into the hands of the young Indian State. The difficulties laid in the way of the Nepalese transit goods by certain Indian authorities did not always help to improve the relations between the two countries. The sincere friendship between British India and Nepal was by no means restricted only to the upper classes. On my extensive trips through Nepal I was constantly struck by the emotion with which the veteran Gurkha soldiers remembered their period of service under British officers, with what enthusiasm they recalled episodes from their active service, and how proud they were to display their knowledge of English. Still today, the country people do not speak of the Indian rupee—in contradistinction to the rupee of Nepal—but of the “Company *mohar*”, the currency of the old East India Company. (A *mohar* is half a rupee.)

A few figures may suffice to illustrate the achievements of the Gurkha soldiers in British service and to show how closely the destiny of many Nepali was bound up with that of Britain. The first soldiers were levied by the British as early as 1814, that is to say, while the war against Nepal was still going on. It is true that it was a matter exclusively of recruitments which the Gurkhas themselves had undertaken in those subjugated regions that no longer belong to Nepal. It is nevertheless surprising that the same soldiers who had defended their country against the British invaders under General Ochterlony, also marched with their former enemies in the same campaign. A masterstroke of diplomacy such as British statesmen have occasionally succeeded in achieving!

The Gurkha Brigade comprised ten regiments of two battalions each. The last regiment was founded as late as 1908. Two regiments were recruited from among the Rais and the Limbus in eastern Nepal, one of Khas, the rest of Mangars, Thamangs and Gurungs.

During the first World War the Gurkhas fought in France, Gallipoli, Palestine, Baluchistan, in the deserts of Suez, in Mesopotamia and on the shores of the Caspian Sea. During the war, 200,000 Gurkhas turned up at the recruiting camps of the British Indian Army at Gorakhpur and Ghum. At the end of the second World War there were 45 Gurkha battalions in the British army. They fought in Africa and Asia on almost all the fronts: in Iraq, Malaya, Persia, Cyprus, at El Alamein and Tobruk, in Italy and in Greece. In Burma the Japanese got to know the Gurkhas as excellent jungle-fighters, and in Singapur the Gurkhas were the last to cease fire. In Italy they took part in the fierce fighting around Monte Cassino.

In the year 1947, when India became independent, the old Gurkha brigade was divided up: six regiments went over to the new Indian army, four regiments remained in British service. The latter have since distinguished themselves during the suppression of the Communist uprising in Malaya. If Malaya today enjoys liberty, it is largely thanks to the Gurkhas.

Between 1915 and 1945 the Gurkhas were awarded 12 Victoria Crosses, and the British officers acknowledge unanimously that the Gurkhas are the best and most valiant soldiers they have commanded.

Today attempts are being made gradually to decrease this mercenary service, and from an ethical standpoint it is undoubtedly a welcome step. From an economic point of view, however, any all too sudden reduction in the number of mercenaries would inevitably drive Nepal to the verge of ruin.

Nepal would really be an ideal region for recruiting a future army or police force for the United Nations. Incorruptible, loyal, and unprejudiced by political temptations, the Gurkhas would perform their duties, and many a point where unrest and disturbance reign could be quietened down by the mere presence of the soldiers from Nepal. From a morally contestable active service in war for foreign overlords there would in this way grow up a service in the interests of peace and security; moreover, Nepal would in this way receive effective economic aid.

In spite of the natural isolation of the country, which was enhanced deliberately by the government, the mercenary soldiers brought home with them the alluring atmosphere of foreign lands and Western civilization. The leaders of the country could not resist these attractions for ever, and after Jang Bahadur Rana, Maharaja Chandra Shamsher also set out for England. This contact with the outside world introduced, among other things, a new style of architecture to Nepal, and the Ranas built many palaces in the neo-classical style. These buildings—for instance, the Singha Durbar, the Central Secretariat of the Nepal Government—are certainly not unhandsome; but they cannot vie with the splendid old Newar buildings. Of course the Nepalese now also tried to imitate the Western style of living, and in place of the fine original Newar furniture, home furnishings and fittings in the European ornamental style of the turn of the century made their appearance here and there. There were even nobles who sent for pianos, both grand and upright, although there was scarcely anyone who could play them.

The overlapping of modern occidental influences on the old oriental cultures is reflected in the official seal: on a European heraldic escutcheon against the background of the Himalayas is depicted the Hindu god Shiva with the trident. On one of the scrolls below the escutcheon stands in Latin: “*Dulce et decorum est pro patria mori*”, on the other in Sanskrit: “The mother and the motherland are more important than Heaven.” Above the escutcheon is a drawing of Buddha’s footprint, with two crossed swords, flanked by the sun and the moon.

The rulers who followed after Chandra Shamsher endeavoured to maintain their position of pre-eminence by closing the country hermetically against the outside world and forbidding the entry of foreign visitors. In this way they hoped to keep at a distance the dangerous influence of a world beyond their frontiers that was everywhere in a state of social unrest and ferment. Of course, in a small country without substantial military and police forces, this was possible only so long as her larger neighbours were content to tolerate this voluntary state of backwardness and isolation. The situation changed, however, when India became independent and the Chinese marched into Tibet. Then Nepal, too, was caught up in the maelstrom of the new spirit that has created numerous free nations in Asia, and all at once she was faced with the greatest revolution in her history. A political opposition was formed, which, together with the exiled Ranas, engaged in a struggle against the despotic regime. The old Rana dynasty strove desperately to remain in power after the last World War, by not only arresting

the leaders of the Opposition, but even subjecting them to corporal punishment. It must, however, be said in vindication of the last maharaja, Mohan Shamsher, that he was not consciously upholding a bloody-minded regime of oppression, but that he was quite simply an adherent of an out-moded system for which there is no place in the world of today. When, in 1951, he abdicated under the pressure of circumstances, he declared that his day was over and that he could not stand in the way of the progressive forces that wished to lead the country to a brighter future. After his abdication he went into exile in India, where he has since died.

RELATIONS WITH CHINA. Nepal's official relations with China are older than those with the south. Even though nothing certain is known about their beginnings, it is certain that the first Chinese embassy in the Nepal Valley was established in the year 646. The Chinese Empire radiated so much power, splendour, and authority in ancient days that the small neighbours to the south and west found it wisest to gain and maintain her favour with gifts, although China laid no territorial claims to this remote corner of the world. As early as the year 651, King Narendra of Nepal, of the Thakur dynasty, sent presents to Peking for the first time. They were a token of friendship, not in any way a form of tribute, and his ambassadors returned from China with gifts no less valuable. This custom continued into our own century, until the overthrow of the Manju dynasty.

Towards Tibet, however, China's attitude was less peaceful, and several times it laid claim to that territory by force of arms.

Different, again, were the relations between Tibet and Nepal. According to a myth, the creator of the Nepal Valley (Plate 58), the god Manjusri, who is depicted on the cover of this book, came from north-east Tibet. As early as the 7th century there were relations of kinship between the rival royal families; but neither of the two states succeeded for long in subjugating the other. The Himalayas, a natural rampart, stood in the way of any all too facile encroachment.

Until quite recently, there were very lively cultural and economic relations between the two countries. For instance, already in the 17th century, the coins minted by the Malla kings were considered the only legal tender in Tibet. This monopoly of the mint yielded Nepal considerable profits, of course, and quite early a large colony of Newar traders and Nepalese artist-craftsmen settled in Lhasa. Many of the Tibetan works of art that are today admired in museums all over the world were undoubtedly made by these Newar artists in Lhasa.

When the Gurkha king, Prithwi Narayan, introduced the Gurkha currency into Nepal, he first of all applied economic measures to force this coinage upon the Tibetans. He forbade their merchants entry into Nepal, and he ordered that those who nevertheless took the risk of entering the country should have their ears cut off. When these measures did not show the desired results, he sent his soldiers out to loot the wealthy Tibetan monasteries.

The aggressors did not get as far as Lhasa, it is true; they were intercepted on the way by Chinese mediators. They were shrewd enough not to provoke their powerful neighbour by their own obstinacy,

and they declared themselves satisfied with Tibet's promise to pay an annual tribute. The Dalai Lama, however, over whose head the agreement had been reached, refused to pay. Thereupon the Gurkhas again invaded Tibet, plundering and sacking, among others, the famous Tashi Lhunpo monastery. Then China intervened, and her army under General Fu-Kang'an crossed the Kyirong Pass in July, 1793. In the Trisuli valley, some thirty kilometres to the north of Kathmandu, the last Gurkha resistance collapsed in the face of the Chinese artillery fire, and only then, when the way to the capital lay open to the enemy, did the Nepalese government sue for peace. Before this, in his desperate plight, the king had even called upon the British army to help him. The victors, however, proved magnanimous, and left the Gurkhas in peace. The latter were wise enough to acknowledge the friendship of the distant Emperor, who protected them from being seized by the neighbour on the southern border, who was growing steadily more powerful.

The actual loser was Tibet; for China left a strong garrison behind and set up a close chain of cantonments or military stations along the border in the Himalayas.

The Gurkhas now again began to send gifts to the Emperor in Peking. Every five years the mission set out from the Nepal Valley by the traditional route, which ran through almost the whole continent, to carry their gifts to Peking and lay them before the dragon throne. It took them two days to reach the Tibetan border; after a further 24 days they reached Lhasa. There they usually remained for one month, and the Imperial Chinese commissary had an inventory made of the presents. In sixty-four stages they reached the Chinese frontier, where an escort awaited them to accompany them to their distant destination by a further seventy-two stages through Szetchuan and Honan. In Peking the deputies were allowed to appear once in the presence of His Majesty before they set out again on the homeward journey. After an absence of eighteen months they finally reached their own country again, and the king, riding on an elephant, headed the solemn procession which escorted them into the capital. It was not only an honour to take part in these expeditions; they were also extremely profitable, for the members were allowed to take their luggage into the country free of taxes and Custom duties.

In 1855 Jang Bahadur's troops again marched into Tibet. The peace treaty signed in 1856 granted Nepal the right to have a Residency in Lhasa with its own Gurkha guard. Again Tibet had to pay an annual tribute, and it was obliged to grant Nepal trade facilities. The Newar colony in Lhasa was placed under the jurisdiction of the Resident.

The situation changed in 1950 when the Chinese occupied Tibet. Only two years later the payment of the annual tribute of 10,000 rupees failed to arrive in Nepal. The Newar colony in Lhasa not only suffered the loss of its privileges, but their trade was subjected to severe restrictions. Between 1952 and 1954 the exchange of goods between the two countries, which had until then been very brisk, came to a complete standstill, but recovered again in the following years. The revolution in Tibet in the year 1959 brought about a definitive discontinuance of trade relations. The Nepalese merchants in Lhasa were expelled, and the Residency closed. Since then the Tibetan frontier has been closed towards the south by a chain of military stations.

Moreover, China lays claim to some of the valleys of the Inner Himalayas (fig. 3) and to the entire Mount Everest massif. This claim cannot be substantiated in any way, for the so-called MacMahon Line is reasonable and clear, and the inhabitants in the respective valleys know not only on which side they have belonged hitherto, but also where they wish to belong in the future. The Mount Everest issue is equally clear: the boundary runs along the principal crest, and the whole southern flank of the Everest group with Khumbu has always belonged to Nepal.

The natural consequence of these events is the closer economic relations of Nepal with India. Besides this, the technical aid that the United Nations, the Colombo Plan and also the various individual countries grant to Nepal has also strengthened her political and economic situation.

FROM A MEDIEVAL FEUDAL STATE TO A MODERN DEMOCRACY. At the outbreak of the revolution in the year 1950, King Tribhuvan was able, with Indian help, to escape to Delhi. One year later, when Mohan Shamsheer retired from the Nepalese political stage, the Congress Party first of all took over the leadership in the young Democracy. Their first step was to reinstate the king in office, and attempts were made to give the country a real Democracy. However, with the best will in the world, it is difficult to do away with a feudal regime that has ruled over a country for centuries. There was no lack of rivalry and controversy in the leading party, and so it soon split up into smaller factions. Every government is bound to make itself unpopular if it is obliged to resolve to raise taxation as an initial measure to putting into practice the promised programme of development. After various changes of government, King Tribhuvan took the reins of government into his own hands and, sometimes with the help of Indian advisers, guided his country's destiny himself.

When the latter died in 1956, Crown Prince Mahendra Bir Bikram Shah Deva, only thirty-five years of age, took the government into his own hands, ruling with a small staff of advisers.

Nepal became a member of the UNO and its numerous sub-organizations, establishing diplomatic relations with Italy, the Soviet Union, China and Switzerland, besides the official relations already existing with India, Great Britain, the USA and France. Preparations for holding free elections—the first elections in the history of Nepal—were pushed ahead energetically. Whoever has travelled through this mountainous country may have some idea of the difficulties that faced the men responsible for them. Not only are all means of transport and communications lacking, but added to this, about 95 % of the population is illiterate. All the more remarkable is the skill with which all these problems were overcome. I was able to see for myself how excellently these elections were organized; even in the remotest mountain valleys the peasants were able to vote without the slightest pressure being brought to bear on them.

These elections (May 1959) are a landmark in the history of Nepal. With a large majority, the nation gave a vote of confidence to the Congress Party, which has since been reorganized, and this party provided the first elected government, with the able and courageous B. P. Koirala, the life and soul of the struggle for liberty, as Prime Minister.

Encounter with the Nepalese People

My description of the racial, religious, and cultural diversity in Nepal today may have roused in one or other of the readers the desire to meet Nepalese people and to become acquainted with them. That is understandable, for in intercourse with the people of Nepal the foreign visitor often receives the impression that the best characteristics of the numerous ethnic groups have been united in the character of the present-day Nepalese; the frank and free disposition of the mountain peasant, the loyalty and reliability of the Gurkha soldier, the cultural interests of the Newars, and the alert intellect of the Brahman—and everywhere and always—Asiatic courtesy!

EXEMPLARY TOLERANCE. In what I have said up to now, I have several times pointed out how generous and open-minded the Nepalese people are in general. The desire to respect others and the ability to accept and love them as they are, were of course the necessary basis for the success of a mixture of peoples of this kind. It was also this tolerance that enabled the nation in 1950–1951 to transform a medieval feudal state into a democracy with an elected constitutional government, and that without strife and bloodshed, and even without any upheaval worth mentioning.

I began my work in Nepal in 1950, that is to say, still under the old regime of the last maharaja, Mohan Shamsher, and I experienced not only the entire so-called “Civil War”, but subsequently also eight changes of government. If I was on a friendly footing with all the governments, the credit was not due principally to my own merit but to the character and the tolerance of the Nepalese. It would not be possible in every country, for instance, for a foreign expert to work on behalf of the government and at the same time to entertain friendly relations with the leaders of the Opposition. In many a young nation, the foreigner must risk reprisals or expulsion if he contacts a member of the political Opposition. In Nepal, on the contrary, I was able to visit the leader of the Opposition, who had been thrown into prison during the disturbances, and that not in secret, but quite openly.

This tolerance is especially evident in the religious sphere. Thus, for instance, it is virtually impossible to distinguish exactly between Hindus and Buddhists. Of course the Bhotiyas in the Tibetan ethnic group are pure Buddhists; the Brahmins and Kshatriyas in the Indo-Nepalese section of the population, on the contrary, are orthodox Hindus. The ancient Nepalese races, however, and the half-castes worship Buddha, the Hindu gods and a great number of ancient spirits, deities, and Tantric magicians. If you ask a Nepalese about the exact distinctions between the various religions, he will merely shake his head; the question makes no sense to him. For a better understanding of this attitude, I quote a few lines written by the great French explorer, Sylvain Lévi, in his great work on Nepal: “As heirs of Greek logic and of Jewish monotheism we instinctively apply to religious beliefs the principle of contradiction and opposition; thus deities and devotees are classified in ‘closed’ groups, exclusive to the point of being antagonistic. Statistics, so serious as to be positively ridiculous, have calculated the total number of Buddhists, Confucians, and Shintoists in the world. A Hindu, a Chinese, a Japanese cannot

see the sense of these figures; for this rigid classification is entirely alien to the mentality of the Far East. Man vaguely perceives in Nature an infinite multitude of forces waiting to pounce on him at any moment because of his weakness; his pantheon is wide open, he always has room for yet one more new guest. The priest is not a spiritual physician, however, but a specialist in rites; like the deity he serves, he has his own domain of competence in which he excels, and he is content to leave his neighbour's domain alone."

Such a tolerant nation is, of course, a bad field for missionary work; for they just cannot see why they should leave off venerating the old gods and start worshipping a new one. Among the Nepalese it is far more the deed than lip-service that counts—and they take it more seriously than we do!

Twice I have celebrated Christmas with my family in Nepal. All my employees celebrated it with us as though it were their own festival, and from my friends in the government I received greetings for a "Merry Christmas". It was not merely a polite gesture, it was more than that—it denoted respect for the religious beliefs of other people.

Once, when I was visiting the Swayambhunath sanctuary near Kathmandu, I was surprised to find images of Buddha, Christ and Gandhi besides those of Hindu deities. To my query I received the matter-of-fact answer: "All the same, Sir."

A FREE, SELF-CONFIDENT PEOPLE. The serene self-assurance that characterizes the Nepalese may probably be traced back to the fact that the country has never been a colony. Since the very beginning of their history, the Nepalese have been a free nation, and they are therefore not burdened with that inferiority complex that makes intercourse with many of the new young nations so difficult.

The Nepalese are critical of themselves, while their self-confidence allows them to bear foreign criticism. This is not altogether a matter of course, for many a nation in the process of development reacts exceedingly sourly to any criticism from outside, however well-intentioned it may be. That is why, for instance, foreign experts in Nepal do not need to draw up their reports in words that shall be as neutral and colourless as possible, in order not to offend anybody. Vanity and excessive sensitivity are signs of inner instability—and that is why the Nepalese do not suffer from them!

The report that I handed to the government of Nepal at the end of 1959 on behalf of the United Nations Technical Assistance Administration was in many respects critical and it exposed, without any consideration for their feelings, the principal mistakes made in national planning. This report was in no way rejected by the government; on the contrary, one of the Ministers declared: "This the kind of report we need for the development of our country. First we must know what has been wrongly done, and what our real potentialities are."

In general, it is positively characteristic of emergent nations that their development tends to go off in two different directions: in the capital cities, monumental and palatial government edifices spring up like mushrooms from the ground; they hope to impress foreign visitors with ultra-modern buildings and equipment, while the rest of the country, apart from these few model towns, remains in a state of

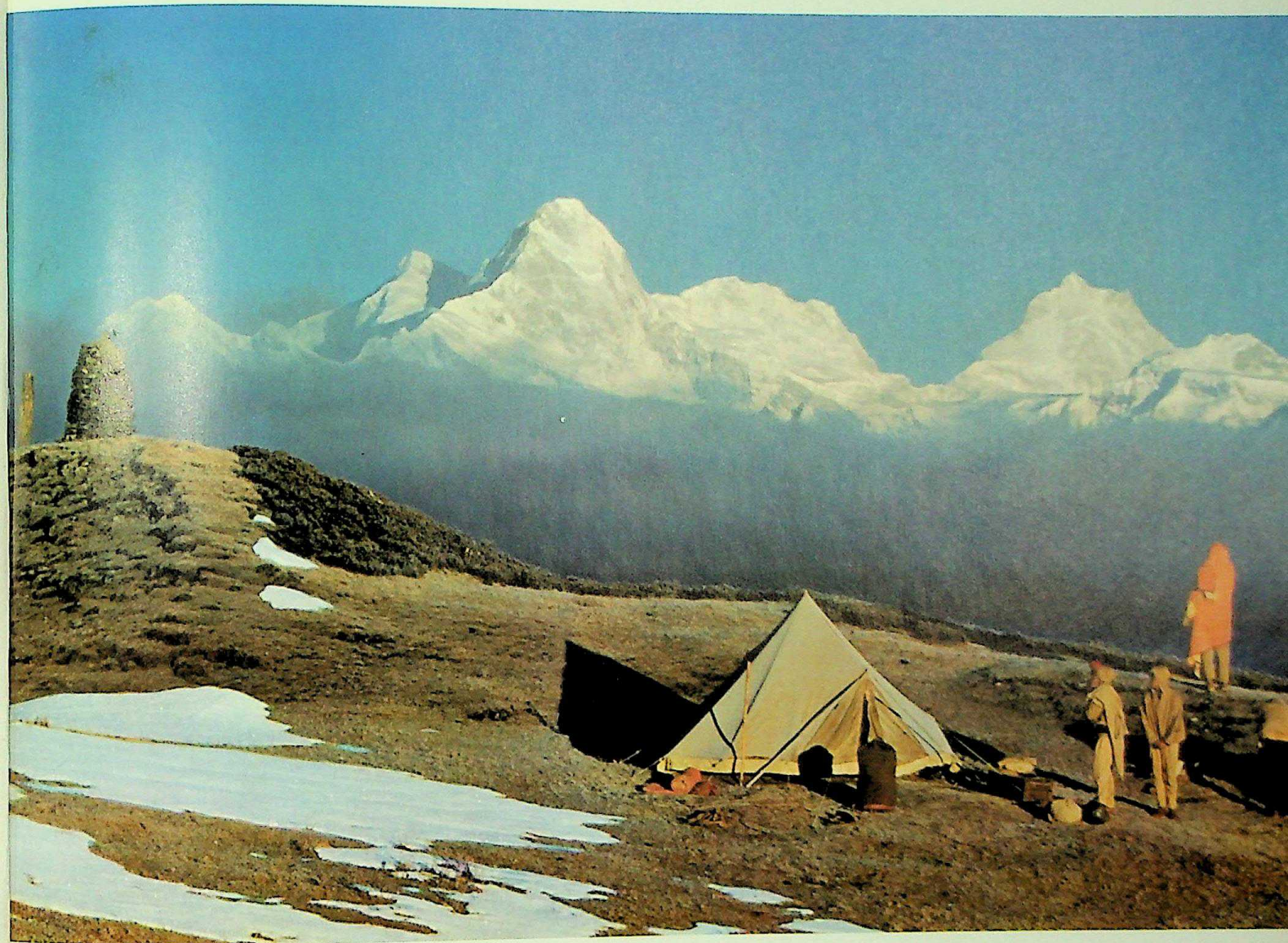
poverty and filth. It is thus a proof of the inner confidence of the Nepalese that they reject such methods. For many of the foreign visitors, the Foreign Office is hard to find in the labyrinth of the corridors of the Singha Durbar, the government building in Kathmandu.

Nepal, like Switzerland, is wedged in between powerful neighbours, whose feelings and aims have not invariably been friendly and peaceful. Like Switzerland, therefore, Nepal early learnt to guard her liberty and neutrality. In this respect, the story of the refusal of Maharaja Chandra Shamsher to receive Lord Curzon, the Viceroy of India, has become famous. The latter was interested in archaeology and would have liked to visit the Nepalese art monuments. Although Nepal was on very friendly terms with the British Colonial Administration, the Prime Minister replied that he could not receive him so long as he was the Viceroy of India, for he did not wish to create a precedent. If, however, he wished to visit Nepal inofficially later, as a private person, he would be a welcome and an honoured guest.

HONESTY, RELIABILITY, AND LOYALTY. Whereas elsewhere the activity of gangsters and bandits has increased alarmingly of late, the explorer or mountaineer in Nepal is in no danger at all in this respect. The honesty and trustworthiness of the Nepalese are exemplary. Never, on my extensive journeys, have I been menaced by robbers, and never has anything of mine been stolen. A few examples may prove how well-founded is my high opinion of the honesty of the Nepalese.

Once a Sherpa attached to the 1952 Swiss Mount Everest Expedition came to my house at Jawalakhel near Kathmandu. He had been instructed to fetch the sum of 12,000 Nepal rupees (at that time worth about 8000 Swiss francs, some £ 600.0.0 or about 1680 US dollars), and to take that sum to the base camp on the Khumbu glacier. The Sherpa was unknown to me; but he showed me a letter from the leader of the expedition, and so I was able to entrust him with the amount—for Nepal an enormous sum of money. The messenger could not write, so he “signed” the receipt with his finger-print, and then set off with his heavy load, conveying the money safely to its destination in a long march, which took him a fortnight, over lonely heights and through dense forests.

My expeditions often lasted as much as six months at a time, and of course we had to take ready money with us. The sum of several thousand rupees in cash—for in vast regions of Nepal only cash is accepted—was as much as one man could carry. The man chosen for the task was fully aware of his importance, and to emphasize it to the people of the villages we came to, he used to set down his load with a great clatter and clinking of coins. At first I felt very uncomfortable about this. After all, the 6000 Nepal rupees that we normally took with us corresponded to about 150 months’ salary of a Nepalese schoolmaster. Imagine what it would be like in New York if a man were to carry around with him some 45,000 dollars in cash and to call the attention of the public to the fact on every possible occasion and in every possible way. No great stretch of the imagination is needed to guess what would happen to him if he were then, let us say, to stroll through a large public park after dark. A New Yorker hardly dares to venture into Central Park at night as it is. I have chose this comparison on purpose



5 *Left, Himalchuli, 7864 metres above sea-level, and right, Manaslu, 8125 metres, between them an unnamed peak that has not yet been climbed, 7835 metres above sea-level. After numerous earlier attempts to climb Manaslu had failed, the ascent was successfully made by a Japanese expedition; Himalchuli defied every assault, and not until 1960 was it conquered, again by a team of Japanese mountaineers. The whole massif goes by the collective name of Gurkha-Himal; for the historic township of Gurkha is situated at a distance of only 45 kilometres at the foot of the huge mountains, rising above the gleaming sea of clouds in the early morning, which lies at an altitude of about 4300 metres. Our camp is 4400 metres above sea-level. At these intermediate altitudes there is usually no snow in December, but the nights are bitterly cold.*

because the Nepalese Ambassador to the United Nations was attacked, stabbed, and seriously wounded on an evening walk in Central Park in 1958.

Two Sherpa runners provided the communication between my camp in the mountains and the outside world. Sometimes they had to cover enormous distances through trackless and desert regions—over three weeks each way. But the Sherpas were always trying to set up new records in order to carry out their instruction as quickly and as well as possible.

ASIATIC COURTESY. The Nepalese is so polite and so amiable that he hates to have to convey bad news to an employer or a friend.

It was in the summer of 1954. I was very ill, had a high temperature and, with my men, was far to the north of Dhaulagiri. The monsoon had already burst, the worst in human memory. The floods had swept away many of the bridges. We were on the return trip in the Kali Gandaki gorge between Dhaulagiri and Annapurna (Plates 41 and 45). One piece of bad news after another was brought to us: bridges had been torn away, paths blocked by landslides. With infinite pains we erected makeshift bridges and finally, completely exhausted, we reached a point close to the bridge at Diplang. This bridge was a strong ironwork construction, which should have been able to withstand any monsoon. But a few hours' march above the bridge, my Sherpa Aila suddenly appeared, very distressed and embarrassed, and said with a grin: "I think one hour waiting, Sir." Surprised, I asked the reason of the delay and he replied: "Diplang Bridge broken, Sir." I knew my Sherpa, and I knew there was more to it than met the eye. I kept on asking, and finally I pressed out of him the fact that the bridge had been completely destroyed. "Nobody there, Sir, I think bridge repair next year", he said. That was the most he would concede to me; but he knew as well as I did that it would be years before there would be a new bridge at Diplang.

For many years I always had the same porters, and it is only natural that in the course of time friendship, and above all an excellent team spirit, gradually grew up among us. It was wonderful to see what pains my Sherpas took to make an impression among the local population with their "sahib". They loved to promote me to "Colonel Sahib", or even to "General Sahib". With priests or lamas, on the other hand, the military rank held less attraction, and so they usually introduced me as "Swiss Brahman" or "Swiss lama".

The beauty of the countryside and the friendliness of the inhabitants make a visit to this country an unforgettable experience. The impressions will be all the greater if one seizes every possible opportunity of coming into contact with the people outside the capital. Whoever comes to this country—experts of the technical assistance, tourists, explorers or mountaineers—all soon fall under the magic spell of Nepal. When one has lived there for some time, it is not easy to feel at home again anywhere else, and the memory of Nepal always remains with one like a star in the night.

Problems of Economy and Development

1. THE HERITAGE OF THE MEDIEVAL FEUDAL RULE. In many respects, Nepal's economy is archaic. Thus, for instance, the peasant still tills his fields with the short-handled mattock or hoe and with the wooden plough, as his forefathers have done for centuries. The sickle is used exclusively to reap the harvest. The peasants' houses are constructed entirely without metal: nails, mountings and wire are unknown in the interior of the country. On the other hand, the Nepalese are exceedingly skilful at constructing houses of stones, mortar, bamboo, quoined or wedged planks, and bast.

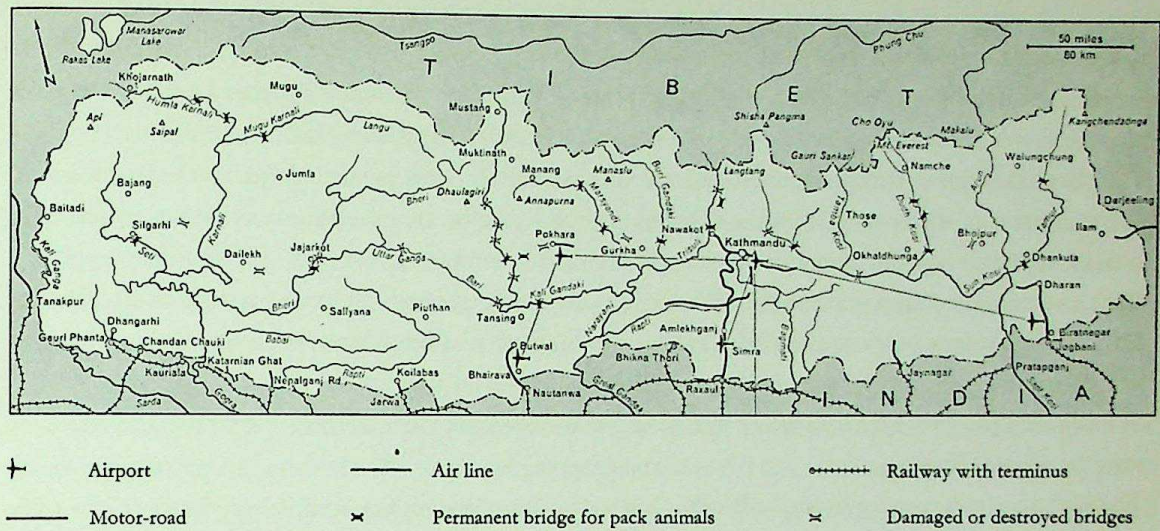
With the exception of a few more highly developed ethnic groups, life in the villages is no different from what it was many hundreds of years ago: there is no sort of community organization, no water supply and no communal works carried out by joint effort. Nobody sees to the construction or upkeep of paths and bridges, and so it is not surprising that even the principal trade-routes are in a shocking state of repair (Plates 44-47).

The saw, too, is unknown in rural districts, and so the dug-outs, for instance, so important for crossing the wide rivers, are hewn and hollowed out of tree-trunks with a hatchet. Boards for house-building are not obtained by sawing tree-trunks, but are hewn to the right shape and size with an axe specially kept for this purpose. As wood is exceedingly rare in any case, the waste that is caused by this mode of preparation is especially serious.

The Nepalese are still largely self-supporting. What the peasant needs in the way of food he plants on his own land. Sheep and goats supply wool, which is home-spun and home-woven, and made into simple clothes at home. More recently, especially in the southern parts of the country, Indian cotton materials have been increasingly imported.

The economic structure of Nepal is influenced most obviously, however, by the fact that outside Kathmandu, the capital, there is no network of communications at all (fig. 15 and relief-map). Journeys in the interior are still today made on foot. The tracks are too bad and too steep, and either there are no bridges across the big rivers or they are too dangerous to be used by pack animals or by animals burdened with riders. (Plates 44-47.) All the goods are carried on the men's backs (Plates 45 and 46). The wheel—and hence also the cart—is unknown as a means of transport outside the capital and the Terai. The only axles that have been in use for a long time in Nepal are those that turn the prayer-wheels in the Buddhist part of the country and those that bear the Newars' great old-fashioned processional cars in the Nepal Valley (Plate 64).

Kathmandu was linked up with the outside world by a modern roadway only in the year 1956. Before that time the entire traffic with the capital was by a bridle-path or mule-track across two high passes. Most surprising, in this connection, is the fact that already before the construction of this roadway, there were a hundred motor-cars circulating in the Kathmandu Valley. They had been carried across the passes by some 30-40 porters. A transport of this kind lasted several weeks, of course, especially when it took place during one of the great feasts. Then the porters simply left the car standing some-

FIG. 15 *Sketch-map of the Network of Traffic (Communication and Transport)*

where, returned to their villages, and only after the festival was over did they return and resume their loads again.

It is characteristic for Nepal and its development that the air service with India was established as early as 1952, that is to say, before they had begun to build the connecting stretch of roadway. Pokhara, the only trading centre in the Midlands, which also has an airport, will have to wait for years before it gets a motor-road linking it up with Kathmandu or India (fig. 15, Plates 4 and 26). The people of Pokhara became acquainted with the aeroplane even before they knew motor-vehicles, for the first jeeps were flown in by air! Other Midland districts will have the same experiences; for road-building in Nepal is considerably more difficult than over-optimistic planners had foreseen, on account of the mountainous terrain.

Organized trade is, of course, impossible if there is no network of communications. As the Nepalese are self-supporting and also extremely frugal and unpretentious, this fact has not yet had very serious consequences. The impossibility of bartering goods is the reason why the people's diet has hardly changed for centuries—though with one exception, for the potato was introduced about two or three generations ago. Apart from this, however, the Nepalese peasant's meals are extremely monotonous. All the fruits and vegetables introduced by the noble families into the Nepal Valley have scarcely found their way as far as the Midlands.

When you consider that there are still many valleys in the northern parts of the country where matches are unknown, and where fire is still struck with flint and tinder, you wonder in amazement how this nation could have achieved such a high level of culture. In the magnificent Newar works of art there is, after all, a very high degree of artistic craftsmanship and skill. Yet why have these men, who built

the wonderful temples in the Nepal Valley, not also constructed bridges over the rivers, and roadways through the gorges, and why have they nowhere laid out irrigation systems? And why is there no community spirit among the villagers of the Midlands? If, for instance, a tree is blown down during a storm, obstructing a much-frequented trade-route, nobody would dream of removing the obstacle. For years the peasants will laboriously climb over the tree-trunk with their heavy loads.

Apart from the Nepal Valley, a community spirit is to be found only in the northerly valleys, the home of the Sherpas, Thakals and Tibetans. Undoubtedly the race itself and its characteristic features have played a decisive role in the economic development of certain regions. But the distribution of the ethnic groups is also significant in this respect: a constructive community spirit has been able to evolve only in those regions where there is a fairly large concentration of inhabitants of the same ethnic groups living in compact settlements. This is the case with the Newars, as with the Sherpas. In the Midlands, however, where different races have settled in the same valley, separated only by the differences of altitude that each prefers, a community spirit has never grown up. The Brahmans on the valley-floor have nothing in common with the Rais who live only a very little higher up the slope, and still less with the Sherpas at higher altitudes in the same valley. These ethnic groups live maybe scarcely an hour's walk away from each other, yet they are separated by language, economy, religion, and culture.

Generally speaking, the standard of living is higher among the Tibeto-Nepalese ethnic groups than among the Indo-Nepalese tribes. Paradoxically, this is due partly to Nature: a warm and luxuriant climate facilitates life for mankind. He needs to work much less hard for his living, he can manage almost without clothes, and has no need of a roof over his head except to protect him from the rain. In cold zones, however, man must make provisions for the winter, he can only survive if there are sufficient stores of foodstuffs, if he has warm clothes and a good dwelling-place. This forces him to work intensively. Among the Indo-Nepalese groups of the population, moreover, with their many caste-laws, manual labour is considered to be undignified. Added to this, the orthodox Hindu's philosophy is not particularly directed towards this world, as it is for him only a transitional stage for the next life. Thus it is easy to see why the dirtiest and most primitive villages in the Midlands are to be found where the inhabitants consist entirely and exclusively of Brahmans. This does not apply, of course, to those Brahmans who, by their intelligence, have risen to be the leading class in the country, but to those who have remained peasants, and hence are obliged to till the soil themselves. In this connection it may also be pointed out that more than 200 years ago the Newar Malla kings recognized the disastrous role that the caste system played in the development of a country. In order to give the people a good example, they did not hesitate to set to work symbolically on the great buildings themselves (Plate 61).

The forces of progress that the Nepalese people possess as well as any other nation, are still dormant; that they can be awakened is proved by the experiences of the expeditions, and more especially by those of the Swiss cheese-making specialists. They give a very hopeful picture of the latent powers of these people, if only the right way can be found to obtain their co-operation. The Nepalese soldiers have

gained world-wide renown in foreign service for their exceedingly fine qualities. Why should it not be possible, with suitable organization and guidance, to make of them good citizens with a sense of responsibility towards the larger community?

The cause of Nepal's archaic economic system does not lie, however, only in the obstacle that Nature has created, nor only in the heterogeneous composition of the population, but just as much in the backward regime prior to the revolution, which remained sterile after the death of Maharaja Chandra Shamsher in 1929. A dictatorship has certain advantages only so long as the ruler is a personality with a strong character, and one whose decisions are guided exclusively by his care for the welfare of the country. Presumably Chandra Shamsher's successors were also full of goodwill, but they were too weak to carry out their good intentions. The severe discipline in the country had only a negative effect, namely, to restrict the liberty of thought and opinion, which has led to a lack of mental flexibility.

The present Democratic government has done much to put matters right in this respect. The political Opposition is tolerated and respected, and the freedom of the press is guaranteed. Yet the heritage of the old feudal regime still weighs heavily upon the country. Until a few years ago, the capital was surrounded by an internal "Customs-belt". Only two years ago was the compulsory visa control abolished for the Nepalese who wished to leave the capital and to go into the interior of the country. Nepal is probably one of the few countries today (besides the Communist block), if not the only one, in which a foreign tourist's visa is valid only for the capital of the country. If a foreigner wishes to go on an excursion, however short, for instance to Pokhara, at the foot of Annapurna, he has to have a special permit to do so.

The greatest obstacle, however, in the way of a progressive development among the Nepalese, is their imperfect knowledge of their own country. Formerly only very few Nepalese used to be able to travel about the country, and in consequence many officials are still today inclined to transfer the conditions in the Nepal Valley to the rest of the country. For instance, the false impression that the Terai is Nepal's granary and must therefore provide for the Midlands cannot be dispelled from their minds, newspapers, and reports.

With the exception of the census and the elections, all statistics hitherto have been based on guesswork, estimates, and false data; even the "Economic Survey" compiled during the last few years has not altered much in this respect.

Could there be any example that better characterizes the administrative decline of the last few decades than the state of the currency? During the reigns of the Malla kings, Nepalese coins were often the only legal tender even in Tibet. A few years ago, however, before I set out on one of my expeditions, no one was any longer in a position to give me information about what currency was accepted as payment in the various parts of the country. In order to be on the safe side, I had always to take with me Nepalese, Indian and Tibetan money, and even cigarettes as a form of payment. At Pokhara, only forty minutes by air from Kathmandu, the rate of exchange between the Nepalese rupee and the Indian rupee is still today higher than in the capital.

Under the old regime, the entire revenue from taxes went into the pockets of the maharajas. No account of them was given, nor was a budget ever drawn up. There was no such thing as income-tax; the national revenue was based on a land-tax, which was paid principally by the poorer peasants. Almost one third of the land was so-called "Birta-land", that is to say, tax-free real estate that the ruler distributed in reward for services rendered. During the last thirty years, the mountain-peasant in the Midlands has received nothing in return for his taxes. The upper classes, on the contrary, have been able to amass great wealth, and they have invested huge sums abroad, as is the usual thing to do.

In the year 1959, however, income-tax and property-tax were introduced, especially on real estate and palaces. The freedom from taxation on the Birta-land was suspended, and rates and licence-fees were levied on water, electricity, wireless, and vehicles.

The system of book-keeping developed under the old regime was adapted entirely and exclusively to a central power, so that even for small payments the highest instance had to be applied to. At first, this system was retained under the Democratic regime. None of the numerous newly-formed departments could draw money without their application making the round of all the various instances on its way to the Minister of Finance, the files, of course, being pigeon-holed for a couple of weeks at each level. In the year 1959, with the help of an UNRAO (United Nations Technical Aid Organization) expert, the government devised a system that is absolutely revolutionary for the country, which allows the departments a certain financial independence.

POTENTIAL AND UNEXPLOITED NATURAL RESOURCES. Nepal's economy is very backward; yet Nature by no means created it a poor country. The Midlands and the Terai are favourable areas for agriculture. Copious pre-monsoon rains prolong the period of cultivation, and the extensive hilly regions provide very varied possibilities of farming. The Nepalese peasant is therefore much better off than is the Indian one; for if the monsoon fails to put in an appearance in India, or if the monsoon brings insufficient rainfall, it spells the failure of the crops and a bad harvest for the farmer, which almost always brings famine in its wake. In Nepal, on the contrary, in a bad rice year, a variety of different crops can and do thrive at other altitudes, for instance, maize or millet, buckwheat and barley (Plates 20 and 21).

The natural regions and zones into which the country is divided (shown in fig. 3) are also of importance for farming:

The Terai with its long dry season, its monsoon climate, and its altitude of a mere 200 metres above sea-level, is typical rice-growing land. This region, however, is still only insufficiently cultivated, the fields lying fallow during the dry period, i.e. for almost eight months in the year. Water-buffalo and Indian cattle graze on the stubble, which provides but scanty fodder. In the east, where the precipitation is greater, sugar-cane and jute also thrive, the latter being the raw-material for what is still today Nepal's only industry worth mentioning.

Almost all the produce of the Terai is exported to India; only the area to the south of Kathmandu is an exception, for it supplies the Nepal Valley.

The Nepal Valley occupies a special position in the Midlands. The Newars have built up an intensive system of horticulture, and all the fruits and vegetables of the subtropical and temperate zones may be bought at the Kathmandu market.

In other ways, too, farming in the Midlands is more varied than in the Terai. Rice thrives up to 1900 metres, i.e. in the whole settlement-area of the Indo-Nepalese population. It is planted on terraces at the beginning of the monsoon period (the beginning of June), when they are still under water. These terraces are very neatly cultivated, and the low mud walls that enclose them (Plates 20, 21 and 22) also have the function that is elsewhere that of the woods, i.e. they retain the water from the monsoon rains and prevent it from flowing away too fast. It is indeed astonishing that there are not more landslides and avalanches of boulders to devastate the exceedingly steep slopes during the severe cloudbursts.

In the intermediate altitudes, at heights ranging between 1400 metres and 2400 metres—that is to say, in the settlement-area of the ancient Nepalese races—the people live mostly on maize. Like millet, wheat, and oil-seed, maize is also planted on terraces at the beginning of the rainy season. These terraces, however, are not horizontal, but often slightly sloping (Plates 20 and 21). Above 2000 metres on the southern slopes of the Himalayas, only barley, buckwheat, and potatoes are grown.

Vegetables and fruits, however, as has already been stated, are little known in the Midlands. Banana plants, it is true, are found there and in the Terai beside almost every house. Furthermore, Pokhara in central Nepal, Khotang in eastern Nepal, and Achham in western Nepal are famous for their delicious oranges. At altitudes above 2000 metres large white radishes called *mulas* are very popular.

In the valleys of the Inner Himalayas, at altitudes ranging from 2400 metres to 3900 metres, barley, wheat, and potatoes are the principal crops.

The type of the cattle-herding is also adapted to the respective altitude: in the lower valleys of the Midlands it is especially the water-buffalo that is kept. This animal may, however, as has already been mentioned, graze at greater heights, though this is only by way of exception.

At medium altitudes, that is to say between 1400 and 2400 metres above sea-level, the Nepalese cattle are found; and above 2400 metres, among the Tibetan ethnic groups, the yak is bred. The *tsauri*, a cross between the Nepalese race of cattle and the yak, is also common. It has some of the good qualities of each of its parents, but it is sterile.

Stock-farming plays an important part in the economy, even though the daily milk-supply is very low, amounting to only 0.5–1 litre (rather less than a quart) per head. The Hindu religious laws stand in the way of an economic development of cattle-breeding, for they forbid the killing of old or sick animals. The herds of cattle at the lower altitudes—in the area of the orthodox Hindu ethnic groups—consist largely of old and sick animals which are of no further use, but still help to eat up the scanty fodder. Nevertheless, it is just stock-farming that shows some promising aspects (Plate 69). But so far it has been developed systematically only by the Sherpas, who used to export their products to Tibet and to the Solu region in the Midlands.

The Terai and the Midlands are zones of agricultural surplus; how much is exported from these regions to India (and formerly also to Tibet) can only be estimated. At any rate it is considerably more than would appear from the official reports and statistics. It is impossible to supervise and control the whole length of the border between Nepal and India, which is over 1000 kilometres long, for in parts it runs across terrain that is devoid of landmarks, and even through jungle. There are control-posts at only some dozen large frontier-crossings, which do not by any means receive the entire transit-traffic. Export-figures exist for only a few trading-centres on the Indian border and these are based on samples taken at random. An FAO expert calculated the annual export of dairy-produce through Nepalganj to be five million Nepalese rupees, which is about 800,000 dollars or £ 250,000. But it is not only milk and dairy-products (above all *ghi*, a sort of rancid butter or yoghurt) that are exported, but also the following commodities: To India: oil-seed or oleiferous plants (mustard-seed, rape-seed, linseed), spices (curry, pepper), tobacco, bark for dye-stuffs, timber, sugar-cane, jute and medicinal herbs. To Tibet: rice, maize, butter, paper and timber.

The official approximate figure for the import total amounts to 320 million rupees, for imports not even an official approximate figure is available. It is clear that the value of the exported goods is much greater. Nepalganj, for instance, controls only one of six routes that are at least of equal importance. For the whole of Nepal the annual export of *ghi* alone may be estimated to bring in at least 30 million rupees.

Artificial irrigation, the import of high-quality seed with a greater yield, and improved methods of cultivation could lead to an enormous increase in production. The experiments of the American technical mission have proved that new strains of rice or maize, for instance, produce a much greater yield for the same amount of work. But it is just this example that shows that there are many other factors besides theoretical calculations that are decisive for success: thus it is still an enigma to the American specialists why the Nepalese peasant insists on planting his maize so deep in the soil, after they have proved to him that it grows faster and bears larger cobs when the corn is placed just below the surface. The Nepalese forests, in conclusion (fig. 5), are a natural resource of the first rank. It is greatly to be wished, however, that the unplanned system of "timber-mining", i. e. exhaustion of woods, hitherto practised might give way to a modern forest economy.

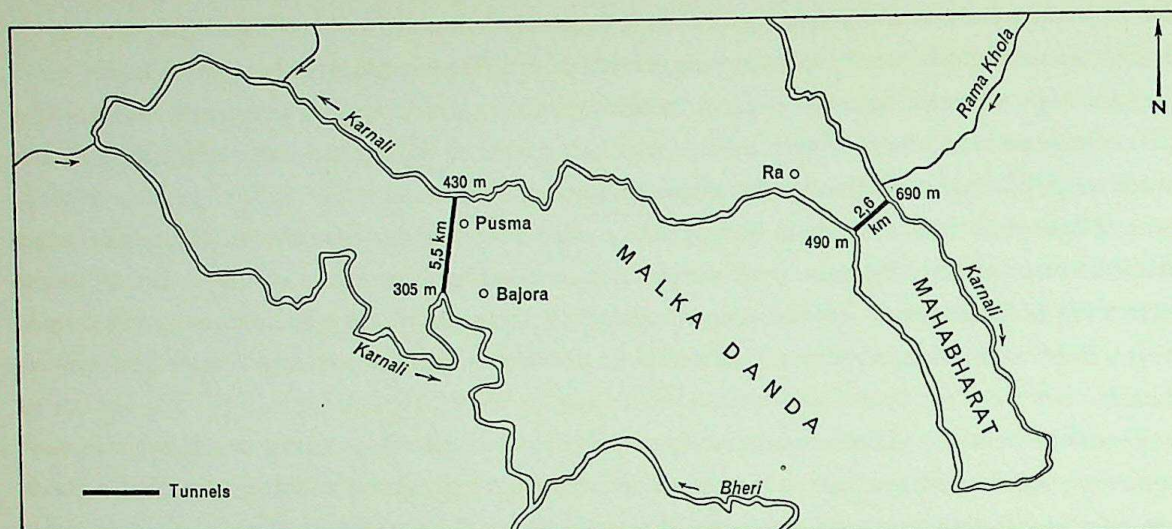
NEPAL'S "WHITE COAL". One of Nepal's future exports is the immense energy of her rivers. The two conditions for the construction of hydro-electric plants—abundant water and a steep gradient—are fulfilled here in a more ideal way than in most other countries in the world.

The configuration of the rivers, with immensely steep curves of gradient in the transverse gorges through the principal chain of the Himalayas (Plates 44 to 46) and the narrow, winding valleys in the Mahabharat chain (Plate 47, fig. 3) have provided two zones predestined more especially for hydro-electric works. The construction of the high pressure works in the Himalayas will not be completed for some time yet, for the low pressure works in the southern part of the country are in a more favourable situation from the standpoint of transport (fig. 15).

In the Mahabharat-chain, which is breached at only three places by the rivers that have collected in the Midlands, there are very many exceedingly favourable sites for the exploitation of water-power (fig. 3). As an example, one of many, we need mention only the Karnali river in western Nepal, which forms a huge S-shaped meander where it breaches the mountains (fig. 16). Two tunnels, one 2.6 kilometres long and the other 5.5 kilometres, could each cut off one of the two loops of the river, and in the first case a fall of 180 metres, in the second case one of 110 metres, would result. The Karnali, however, is one of the largest rivers in Nepal, with a mean flow of about 300 cubic metres per second at the low-water period. Without constructing a dam, therefore, by means of only a simple water-inlet with a short tunnel, approximately 1.3 million kilowatts of electrical energy could thus be won at these two places together. This would surely be the cheapest electrical energy in the whole world!

Of course Nepal has at the present moment no need of so much electric power; it would probably have to be exported to northern India. There would be no difficulty in the way of this export, for Lucknow lies only 200 kilometres to the south of the Karnali, that is to say, quite within the range of radius of an economic transmission line. Besides, this cheap current could also form the basis for a national industry. With this, the country would be quite as capable of overcoming the difficulties caused by the lack of coal in the country as is Switzerland or Norway. But there is also a whole range of industries that require electric power. One might mention the manufacture of calcium carbide (CaC_2), which forms one of the bases of the pharmaceutical and the dye-stuff industries; or the synthetic production of ammonia, also one of the important basic materials of the chemical industry. Even the aluminium industry could find a footing here, for in countries with cheap power it is worth building up this industry even when the raw material, bauxite, has to be imported, as is shown by the example of Switzerland. Above all, however, it is the erection of factories for the production of nitrogenous fertilizers in the electric arc by the Haber-Bosch process that could secure for Nepal what would be virtually a monopoly in south-east Asia, quite apart from the fact that the problem of fertilizer plays an even greater role within the country itself. In the meantime, the Special Fund of the United Nations has taken up the Karnali Project in its programme.

LIQUID GOLD. Where the gods dwell there must also be hidden treasure, and the people, who believe firmly in their tradition of myth and legend, therefore imagine that the Himalayas are rich in gold and precious stones. It is a fact that the sand of some of the rivers contains gold, but I have had to dispel in many minds the dream that nuggets of gold lie around in the Himalayas just waiting to be picked up. Formerly Nepal had a small mining-industry; iron was worked and made into bridge-parts and cannons. Today, however, and for the immediate future, minerals will play only a subordinate part in the development of the country. It is not only the fault of inactivity and lack of interest on the part of the earlier governments, but above all the development in India, where raw materials have grown steadily cheaper as a result of easier transport and improved methods. Besides high-grade minerals such as

FIG. 16 *Karnali Projects, Western Nepal*

mica, beryl, and other semi-precious stones, the working of the Nepalese ore-mines would not be worth while except in very remote and isolated regions.

On the other hand, Nepal has magnificent marble at Godavari (to the south of Kathmandu) which it will undoubtedly be easy to export once the transport problem has been solved by the construction of the new suspension-railway from Kathmandu to Dharsing.

The problem of prospecting for petroleum, or oil, is especially ticklish. The prospects for the distant future do not appear to be unfavourable. At any rate the geological formations correspond to oil-bearing zones in other areas, and the structures may be called favourable. Gas issues at several points conditioned by the geological structure. The evidence is therefore, in general, far more favourable than in many another country, for instance, Switzerland, where expensive investigations and even the drilling of deep bore-holes are still in progress.

The word *oil* casts a spell on people in Nepal as elsewhere, and it is to be hoped that they will not leave the firm ground of reality, for the risk of losses is exceptionally great in prospecting for oil. Oil prospecting also requires a great deal of time and immense financial resources, which far exceeds the possibilities of this small country.

A MIGRATORY NATION. As the Nepalese peasants are still today largely self-supporting, essential things such as agricultural implements, metal parts for buildings, etc. are hardly ever imported, or at least they do not find their way to the villages of the Midlands or of the high valleys. On the other hand, cigarettes, perfumes, and cheap artificial jewellery constitute a very large proportion of the total imports. Besides these things, colourful cotton materials and kerosene are also being imported on an increasing scale, brought back by Gurkha soldiers to their remote mountain villages on their return home from

service. In Kathmandu the import of petrol for the numerous motor-cars is increasing to such an extent that it threatens to become a catastrophe for the country's economy. In the financial year 1959-60 the figure was 1.3 million Nepal rupees, or 165,000 US dollars (700,000 Swiss francs or £ 60,000).

For one vital product, however, the entire Nepalese population is dependent on foreign countries—for salt! Nepal has no salt of her own, and the inhabitants of even the smallest mountain village are dependent upon other countries for this staple commodity.

In the Kathmandu valley, which is accessible to traffic, the import and distribution of salt takes place in the usual manner through the wholesale and the retail trade. In the interior of the country, on the contrary, where there is no network of communications, there can be no question of an organized trade with wholesale merchants and retail businesses scattered over the whole country. Neither for wholesale merchants nor for the shopkeepers and tradesmen would the transport and distribution of salt by porters be profitable. So each household must provide itself with salt, at least one member of each family setting out each year carrying a big load of their own agricultural produce, to barter his goods for salt at the Indian—formerly also at the Tibetan—frontier.

Such a “salt-trip” is the adventure of the year for the participants. Ten to fifteen people, dressed in their Sunday clothes, the women wearing their traditional finery, set out together. Older members know from previous years where water and wood for cooking, and suitable places for spending the night, are to be found. But they also know where the prettiest girls serve *chang*. The journey lasts about two to eight weeks, according to the situation of the village.

The physiographical configuration of the country causes this pedestrian traffic to be canalized in the bottlenecks of the Himalayas and the Mahabharat-chain (fig. 17), where the heavily-laden peasants are jammed together until endless queues of them are awaiting their turn to pass through. Anybody who has not actually met these single-file queues on the narrow tracks can scarcely imagine their immense length. I have covered all these main routes and I collected some statistics concerning the actual volume of the pedestrian traffic. For several months, counts were made at various times of day, and it became evident that, on an average, 2400 peasants passed along the Kauriala Ghat-Rajapur route (figs. 17 and 18) daily. It may be deduced from these figures that on this one route, during the four winter months, approximately 300,000 Nepalese peasants carry their products to the markets in the south.

Now, the Rajapur route is only one of six equally important trade-routes, and a great many peasants choose unknown paths and tracks, along which they “trickle” southwards through the jungle-forests of the Terai. Moreover, until recently a similar stream of peasants used to flow northwards to the Tibetan border. If we attempt to calculate on the basis of these figures the number of Nepalese who are *en route* for four to eight weeks at a time each year, taking their products to the border in order to exchange them for salt, the immense figure of 2,000,000 is obtained. That is to say 20-25 % of the entire Nepalese population.

After they have paid for the salt that is necessary to their way of life, the peasants receive about 30 to 50 Nepalese rupees for their wares, which is equivalent to about 5-10 dollars, or £ 1. 10. 0 to £ 3. 10. 0.

This sum, therefore, represents the average annual cash income of a Nepalese peasant family. This ridiculously small sum in return for a whole year's toil (compared with the total national income of 3180 million Nepal rupees) is due to two things: in the first place, there is the poor quality of the Nepalese merchandise. Dairy products do not improve by weeks of transport on the peasant's back, and even oranges are no better for being crammed in baskets. A processing industry for agricultural produce: canneries, sugar refineries, cheese-making dairies, cigarette factories, *ghi* refineries, etc., would at once improve the situation. As has been proved by the Langtang dairy, the transport on the porters' backs is worth while for the processed product. Furthermore, it must be taken into account that one man carries an average load of 30-50 kilograms (about 60-100 pounds). They have to take their own food supply with them from their homes, and so the loading-capacity is reduced.

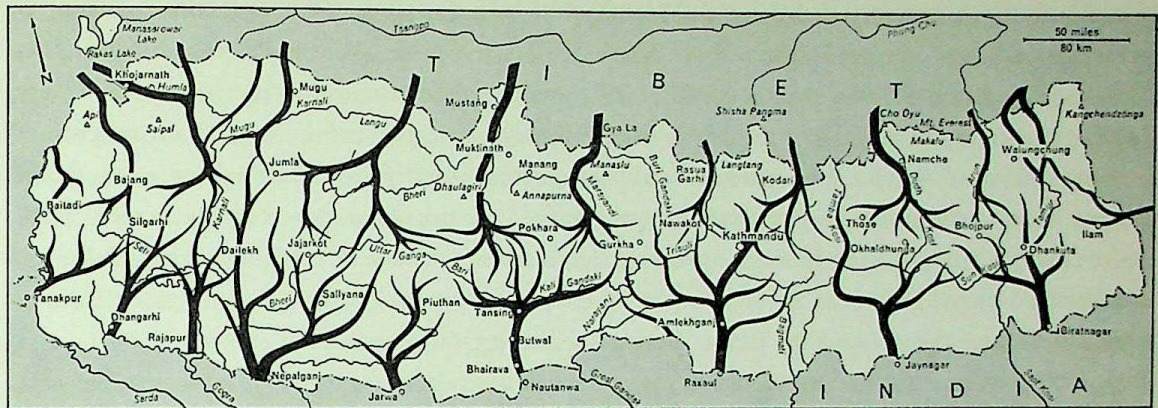
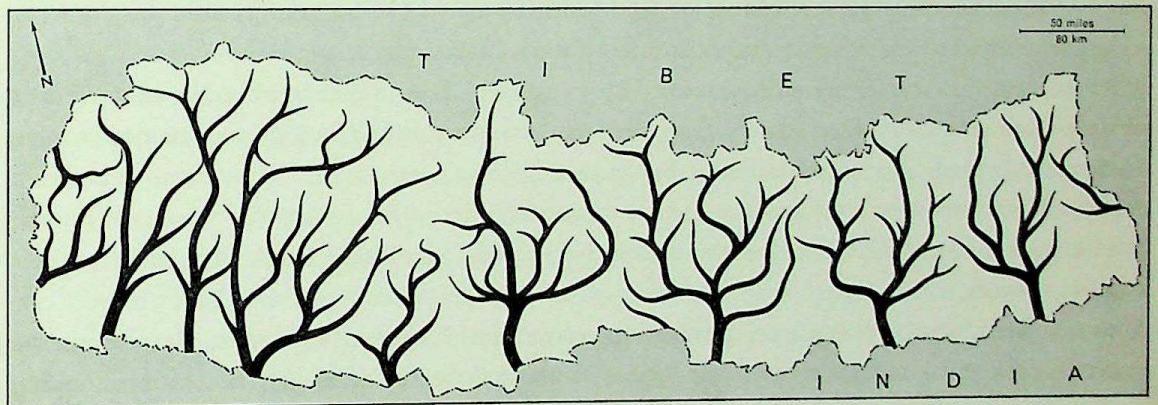
The second reason is the general indebtedness of the country people. Of course it is mostly only small sums, about 100 rupees or so, which had to be borrowed for a wedding ceremony or some such occasion, but since the rate of interest may be as much as 35 % it is, of course, impossible for a peasant ever to pay off his debts. He is therefore obliged to hand over part of his produce either to the land-owner or to the money-lender, and that at prices fixed by the latter.

It is fortunate that many families have other incomes as well. The Nepalese are much in demand as seasonal labourers. Tens of thousands of Nepalese workers are employed on road-construction work in India, and on orange and tea plantations in Bengal, Sikkim, and Assam. Even if it is difficult to ascertain the exact figure, since both Nepalese and Indians cross the border without passports, it may nevertheless be estimated at 200,000. All over India numerous Nepalese are employed as night-watchmen in banks and large stores.

The conditions, which are in part very precarious, cause many Nepalese to emigrate. Thus, about two million Nepalese live in Assam and in the former Nepalese territories that had to be ceded to India by the Treaty of Sagauli (1816). Yet the Nepalese land could easily feed the entire population; it would even, if suitably cultivated, yield a considerable surplus of agricultural produce. There are still vast areas lying fallow that could be brought under cultivation.

MERCENARY SERVICE AS THE BACKBONE OF THE NATIONAL INCOME. A few figures will suffice to illustrate the immense importance of mercenary service for Nepal. At the present day, 12,000 Gurkhas soldiers are in the service of the Indian army, and a further 8000 are in the British Gurkha regiments. During their fifteen years' service, these soldiers are well paid; the commencing-pay is 1200 Indian rupees a year, which is some 250 dollars (about £ 80). The total amount that active military service in foreign armies brings in to the country amounts to about 24 million Indian rupees.

This sum, as we have said, derives from *active* service. After fifteen years, however, the soldier is discharged and then receives an annual pension of 240 rupees. The sum total of these pensions probably amounts to several million rupees a year. It is therefore not surprising that one comes across affluent villages with large houses in the settlement-areas of the Gurungs, Mangars, Thamangs, Rais and Lim-

FIG. 17 *Principal Trade-routes before the Tibetan Revolution*FIG. 18 *Principal Trade-routes after the Tibetan Revolution (1959)*

bus; for the pension of a former Gurkha soldier is still about five times as large as the average income of a peasant. For soldiers on active service the ratio is about 25 : 1 !

It is strange and rather disappointing that fifteen years' absence from their country has very little effect on the lives of the returned veteran soldiers. In some villages, it is true, schools have been built on their initiative, in which they themselves teach, and it is undoubtedly to them that the credit is due if a small irrigation channel is planned and constructed in a valley somewhere in the country-side. But there is not the slightest community spirit even within a village, and so the relatively high incomes of the returned soldiers cannot bring prosperity to the population as a whole.

The veteran Gurkha soldiers are nevertheless a spiritual and intellectual force in the land, and one day they can be appointed to help open up the country. They have been out in the world and have become familiar with other conditions, they can read and write—all they need is a little stimulation and encouragement.

ECONOMIC RE-GROUPING BY POLITICAL INFLUENCES. The diagram in fig. 17 shows the principal trade-routes as they were before the Tibet border was closed. The peasants on their way to the main trails in the Midlands used to collect in the fine ramifications. The trunks of the tree-like figures represent the canalization of the columns of peasants in the narrow gorges. It would have been easy to draw a line of demarcation on this map, dividing the areas with salt of Tibetan origin from the zones with salt of Indian origin. This dividing-line has hitherto been determined by the network of paths, and it ran right across the Midlands. The peasants naturally fetched their salt where they could get it most easily, and the improvement of the roadways in the south would gradually have shifted this "salt-line" further and further towards the north.

The most recent political events in Tibet have now changed this picture: the closing of the Tibetan border forces the peasants of the northern regions to obtain their salt in the south, too. The new salt-trade map (fig. 18) therefore looks quite different and very unsymmetrical. This change is not so very bad for the peasants themselves; for the government has drawn up a vast road-building programme, which will soon make it easier to obtain the supplies of salt from the south. The consequences for the salt-traders in the northernmost valleys, for the Sherpas, Thakals and Bhotiyas of Mustang, is catastrophic. These gay and carefree people have hitherto lived almost entirely by the salt trade, and now suddenly they are finding themselves faced with difficulties and problems that they are unable to solve by themselves, and which affect the very foundations of their lives.

THE AWAKENING NATION. Until recently, the Nepalese people led solitary, frugal lives, and the blessings of progress, often enough questionable in themselves, were unknown to them. In spite of the many diseases which they simply accepted as incurable and which did, indeed, carry off a terribly large number of people to an untimely grave, in spite of their primitive way of life and the monotonous diet, the Nepalese people—especially those in the remote valleys—were very cheerful, a disposition which has long since become less familiar among the so-called advanced nations. This, however, is changing at the present moment, and the new age is striding into Nepal in seven-league boots. Returning Gurkha soldiers are introducing progressive ideas, they talk about the conditions in foreign lands, where small-pox, cholera, and other diseases are not necessarily fatal, because modern medicine has at its disposal effective remedies against them. They also take home cigarettes, glass ornaments, kerosene lamps and gaily-coloured materials, and so rouse in the villagers the desire for such luxuries.

In this connexion I remember a Gurkha soldier who, with his wife and two small children, had returned to his mountain village for a two-months' leave. He complained bitterly about the backwardness of the country. The family had taken four days on the Indian railway to travel the 1300 kilometres from Bombay to Dhanghari on the Nepalese frontier. From Dhanghari, on the other hand, to their farmstead in a mountain valley in central Nepal—60 kilometres as the crow flies—they had had to go on foot, thus wasting a good nine days of their precious leave. Down in the Terai they had had to risk falling ill with malaria; then their route had led through jungle, across dangerous bridges, and along lonely

mountain paths. They had been obliged to carry their baggage on their backs, they had found no rest-houses where they could spend the night, and so they had been entirely dependent on the hospitality of the inhabitants. They had been able to spend only five weeks in their native village, and then they had had to set out again on the tiring return journey.

The revolution of 1950 was the result of the changes that shook the whole of Asia. And now, for the more open-minded sections of the Nepalese nation, the development in their country can hardly progress rapidly enough. They wish to take a colossal stride straight across into the atomic age, skipping the whole process of gradual growth of the structure of civilization from the bottom upwards. It is indeed fortunate that the responsible men, even if they, too, once toyed with these foolish and childish ideas, have long since dropped them. One example may serve to illustrate this situation: During a lecture illustrated with a film about the Langtang dairy farm given for the Government of Nepal, reference was made, among other things, to the struggle that had to be waged incessantly against dirty milk. A secretary thereupon asked whether it would not be possible to instal electric milking-machines. (Electric milking-machines at an altitude of 4200 metres above sea-level, and an eight days' march away from Kathmandu and from the nearest source of electricity!) One of the Ministers supplied the right answer, asking with a smile whether it would not be cheaper to buy a few cakes of soap and to distribute them among the Langtang milkers.

However, the whirlwind of the new era which is blowing through Nepal, rousing in the nation the desire and the will to keep pace with developments in the rest of the world, has not in general gone to the people's heads. On my extensive travels I came to the conviction, which I was in a better position to do than anyone else, that the demands they make on this century of progress and technical knowledge are not only the same in all sections of the population, but that they are also modest and, above all, right and reasonable: first, safe suspension-bridges; secondly, hospitals and doctors; and thirdly, schools. I have already pointed out elsewhere the economic and political importance and the necessity of bridges. The statistics tell a more terrible tale in regard to other matters: the average life-span of the Nepalese is only 26 years. Of 785 patients examined in Kathmandu, no less than 121—that is to say, about 20%—were infected with amoebae. 75% of the Nepalese population have never seen a doctor; but the news of the possibilities of modern medicine has penetrated to even the remotest mountain villages. Scarcely had I pitched my camp in the neighbourhood of a village when the entire population came streaming to the consultation hour, for every foreigner is looked upon as a “doctor Sahib”. The Swiss cheese-makers “doctor” the entire population of the valleys and the crowds that flock to their consultation rooms give the lie to the naive belief that primitive races must implicitly be healthy. In fact, almost all the tropical infectious diseases, such as dysentery, cholera, typhoid, smallpox, jaundice, malaria and a great number of lesser-known fevers, are found in Nepal.

TECHNICAL AID. Like almost all the developing countries, Nepal is at present caught up in a vicious circle, from which she can break away only with difficulty, or not at all, without foreign aid. The devel-

opment of the country requires money, and that means either new taxes or the manufacture of articles for export. Increased taxation is hardly reasonable with the small average income, or at any rate the proceeds would scarcely weigh much. Export industries also need initial capital before they can produce profits. It is therefore logical that help from abroad must be applied here.

Switzerland was the first country to send, as early as 1950, a technical aid mission. An essential part of the United Nations' subsequent activity was based on the work and on the suggestions of these Swiss specialists, including the development of dairy-farming and of irrigation, and the work of geological survey and reconnaissance. In 1951 the United States began to participate in the work of construction, and the growing political importance of the country decided other Powers and organizations to participate in the years following. The United Nations began to realize their programme in 1952, that is to say, long before Nepal itself became a member. Last of all, Chinese financial aid on a vast scale also set in.

Today, six international and bilateral organizations of the technical aid are working in Nepal, besides the Christian missions, who are doing good work in education and in the health services.

The expenditure for 1959/60 may be seen from the following tables in Nepalese rupees, the rate of exchange being about 7 rupees to one USA dollar (1 Rupee = about 1/-):

1. United States of America (USOM)	63,540,000
2. Indian Aid Mission	40,183,000
3. China (financial assistance without specialists)	30,000,000
4. Russian technical aid	5,400,000
5. Ford Foundation	1,135,000
6. United Nations	1,113,000
7. Swiss Technical Assistance	380,000
8. Colombo Plan (New Zealand, financial assistance without specialists)	323,000
	Total 142,074,000

The Government of Nepal contributes 31,856,000 rupees, which is about 25%, towards this sum.

The Swiss programme of aid—the largest devoted by Switzerland to any one country—obviously appears rather modest compared with the efforts of other organizations. It has, however, done really practical and useful work!

With such a sum, a great deal of valuable aid can be given. I have already mentioned the obstacles that stand in the way of the optimum use of the resources at its disposal. Besides the lack of an experienced administration, it is the lack of technicians and engineers that is especially noticeable. Foreign organizations can close these gaps only in part, and the United Nations have hitherto sent principally "advisers", to Nepal. All the more regrettable is the fact that the promising work of the "Engineering School" established by the UNESCO, could not be continued.

Nor was the training of young Nepalese in highly industrialized countries altogether a success. What one has seen and learnt in a foreign country cannot always be applied to one's own country, and young people who have learnt to handle the most modern machinery and appliances in overseas countries cannot become accustomed to the state of affairs at home. Numerous sons of well-to-do families are aching to study international law, politics, economics or atomic physics at foreign universities, it is true. But Nepal needs technicians and engineers! Her greatest need is for men who can not only calculate the dimensions and costs of a bridge, but also build it; experts who can not only design an irrigation channel, but who are also able to lay it out and construct it; in short, practical men who are able not only to plan and project things, but who can, if necessary, themselves manufacture and install small conduits, water-wheels and simple turbines.

Yet great progress has already been made. The FAO (Food and Agriculture Organization of the United Nations) has done splendid work in the dairy-farming and irrigation sectors. The Indian nation has not only constructed the Kathmandu airport, but also connected the capital with the outside world by means of a magnificent highway. The school system has been re-organized with American aid; besides intensive courses of training for teachers and the establishment of numerous primary schools, the first "National University" is being erected in Kathmandu. The World Health Organization is running a course of training for nursing-sisters. With American and Russian aid the road-construction programme can be carried out, and the Indians some time ago began work on the construction of the first modern hydro-electric power plant on the Trisuli river (10,000 kilowatts). The Soviet Union, however, will be ahead of them with the production of the first electrical energy since Maharaja Chandra Shamsher's time. They realized the Panaoti-works, originally a Swiss scheme. The equipment of the hospitals has been improved and modernized, and a number of new hospitals have been built. Here we may mention, above all, the hospital at Pokhara, which has done exceptional pioneering work under the most difficult conditions. The Americans in co-operation with WHO have succeeded in eliminating malaria from many of the valleys, and in the near future the Nepalese people will probably be entirely delivered from this scourge. It was American Jesuits who opened the first modern high school in Nepal. It is run along very progressive lines and opens the way to the University of Cambridge to young Nepalese of all tribes, religions, and castes.

I have already spoken of the installation of cheese-dairies and ordinary dairies, the joint undertaking of the agricultural organization of the United Nations (FAO), the Colombo Plan (New Zealand), and the Swiss Association for Technical Assistance (SHAG). The local processing of agricultural produce is the easiest and quickest way to help the Nepalese peasant to obtain a higher income. Unfortunately this processing industry is still far too little developed; there should be many more cheese-dairies, and there are no canning-factories or sugar-refineries at all. Here, again, it is the Soviet Union that will take the first step by erecting a large sugar-refinery.

The United Nations Technical Assistance Operations (UNTAO) occupy a key-position in Nepal. I have already pointed to the work of its experts for the improvement of the administration, finance, and

taxation, etc. And now my own draft of the first geological map of Nepal is ready. My expeditions, which covered a period of eight years, have put me in a position to make observations on the economic structure of the country and on the prospects for her future, which invalidates prejudices and unfounded opinions. In the new OPEX programme of the United Nations (Operational and Executive) the experts will find an extensive field of work for the benefit of Nepal. So far, directors of the bank, the jute-factory, the legal section of the Foreign Office, the Industrial Development Co-operation and the Geological Survey Department have been appointed.

All these efforts undertaken by foreign organizations to aid Nepal must not make us forget that the Nepalese themselves have also done a very large share of the work. All in all, success will only be possible through close co-operation, and here again the cheese-dairies may be cited as a praiseworthy example. The fundamental conception of the technical aid was defined at its establishment as "teaching by doing" and as "aid to self-aid". The point of departure was the correct assumption that, besides the development of the technical sciences, a sense of responsibility and the initiative of the individual were to be awakened. This way of setting about the task pre-supposes, of course, a minimum of administration at the receiving end, i.e. in the developing country. For a long time, however, this was not the case in Nepal, and so the success of the technical aid did not always come up to expectation. The Soviet Union, by reason of such experiences, has chosen another way: she will build a sugar-refinery, a highway 800 kilometres in length, and supply a modern hospital together with equipment and staff, and she will also construct the first hydro-electric plant, from the surveying and measuring to the finished transformer. Such projects can be realised in a relatively short time, for hardly any native specialists have to be trained, and above all it is not necessary to set the whole cumbersome apparatus of the Civil Service going, almost right up to the Minister of Finance himself, for every rupee. On the other hand, however, these works can certainly not be called more than an "aid to self-aid". However, a country like Nepal has need of both kinds of technical aid: the erection of complete plants that are capable of producing articles for export with the shortest possible delay (e.g. giant power-plants), and the work of planning and organizing from the bottom upwards, with greater consideration for the development of the individual human being. With this, however, we come to the most profound and essential reason for technical aid. In connexion with lectures on Nepal, I have often been asked whether there is any sense in awakening from their idyll nations that have so far remained untouched by our civilization, and in bestowing upon them the doubtful blessings of civilization. This question, however, is wrongly formulated; for those nations are already awake, and they want to share in the progress of civilization. Even if we wanted and presumed to do so, we could not now stop them. So we must try to reduce their difficulties. Let us therefore do as much as we can for them, always bearing in mind the fact that we are not only the donors in a more intensive contact with the emerging nations, but that there is always a "give and take", and that, on an entirely different plane, we have infinitely much to learn from these peoples.

TONI HAGEN

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Relief-map of Nepal, scale 1 : 1 408 000

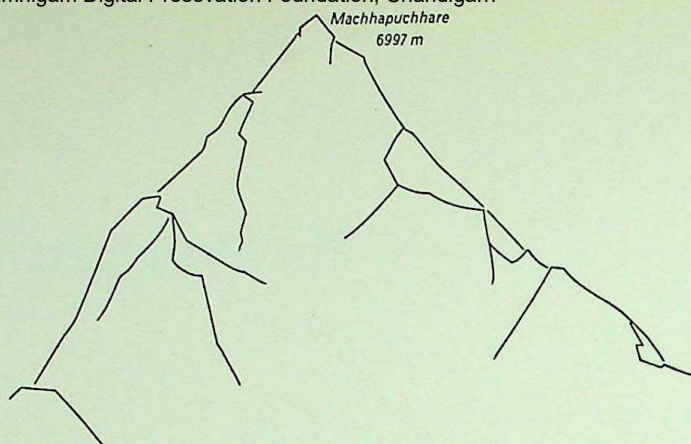
The Orthography and Pronunciation of Nepalese Names

The inhabitants of Nepal employ systems of writing, alphabets and characters that are unfamiliar to us (Devanagari, Newara, Tibetan) and their languages have special sounds that can be rendered only very imperfectly with the letters of our Latin alphabet. In order to obtain the best possible rendering of geographical names, as well as of names of persons and things, Nepalese sources have been used as far as possible, and the original Nepalese characters have been transcribed in accordance with the Survey of India, i. e. the vowels are to be spoken as in German or Italian, the consonants as in English.

Spelling used in text	English pronunciation	Phonetic symbol (Daniel Jones)	Example
ch	<i>ch</i> as in <i>China</i>	tʃ	Chang
chh	<i>ch</i> (as above) + <i>h</i> *	tʃ + h	Chharka
sh	<i>sh</i> as in <i>she</i> (not <i>s + h</i>)	ʃ	Shisha
s	<i>s</i> as in <i>sun</i> , <i>bus</i>	s	Dharsing
z	<i>s</i> as in <i>his</i> , <i>busy</i>	z	Dozam
ph	<i>p + h</i> (not <i>f</i>)	p + h	Phijor
th	<i>t + h</i> (not <i>th</i>)	t + h	Those

A final *e* is pronounced as in *café*, and it does not affect the pronunciation of the vowel in the preceding syllable. A final *r* must be pronounced.

* *h* after consonants is a distinct and clearly-heard aspirate sound (e. g. Buddha is pronounced Budd-ha).



6 *Machhapuchhare, 6997 metres above sea-level.*

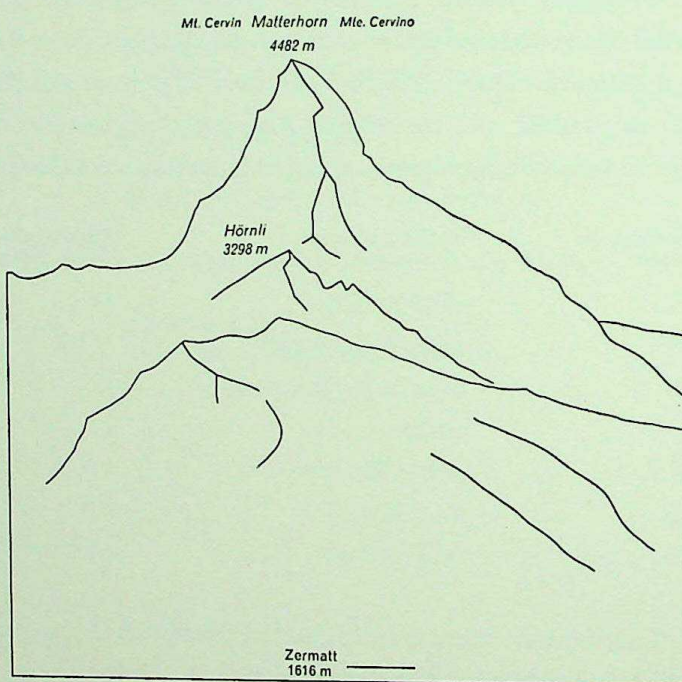
Machhapuchhare means "fish-tail". The likeness of the summit to a fish's tail is not so obvious in this view of it, taken from the south. From a point further to the west however, the pointed twin peaks are shaped exactly like the tail of a fish.

The distance between the summit and the beholder standing on Pokhara Plain, 800 metres above sea-level, is only about 25 kilometres as the crow flies; the foot of the slope in the background lies only about half that distance away. Thus we have a single valley slope rising from about 1000 metres to 7000 metres above sea-level.

For the sake of comparison it may be mentioned that the summit of the Matterhorn would reach up to a point a little below the lowest patches of snow. The diagram shows the Matterhorn to about the same scale as Machhapuchhare in this photograph. It is not only the enormous difference in heights that strikes the beholder, but above all one gets an idea of the inconceivably vast masses of rock that were piled up at the orogenesis of the Himalayas.

The first ascent of Machhapuchhare was made by an English expedition led by Colonel J.O.M. Roberts in 1957; the climbers stopped 50 yards below the summit, as they had agreed to do with the Gurung people at the southern foot of Annapurna. The summit itself belonged to the gods. This agreement may not have been so very unwelcome to the mountaineers, for the ascent of Machhapuchhare is undoubtedly one of the most difficult of the giants of the Nepal Himalayas.

My Sherpa Tashi, an "ace" among the Sherpas, had taken part in that expedition under Colonel Roberts. When I asked him what it had been like, he gave me only the laconic answer: "Very steep road, Sir."

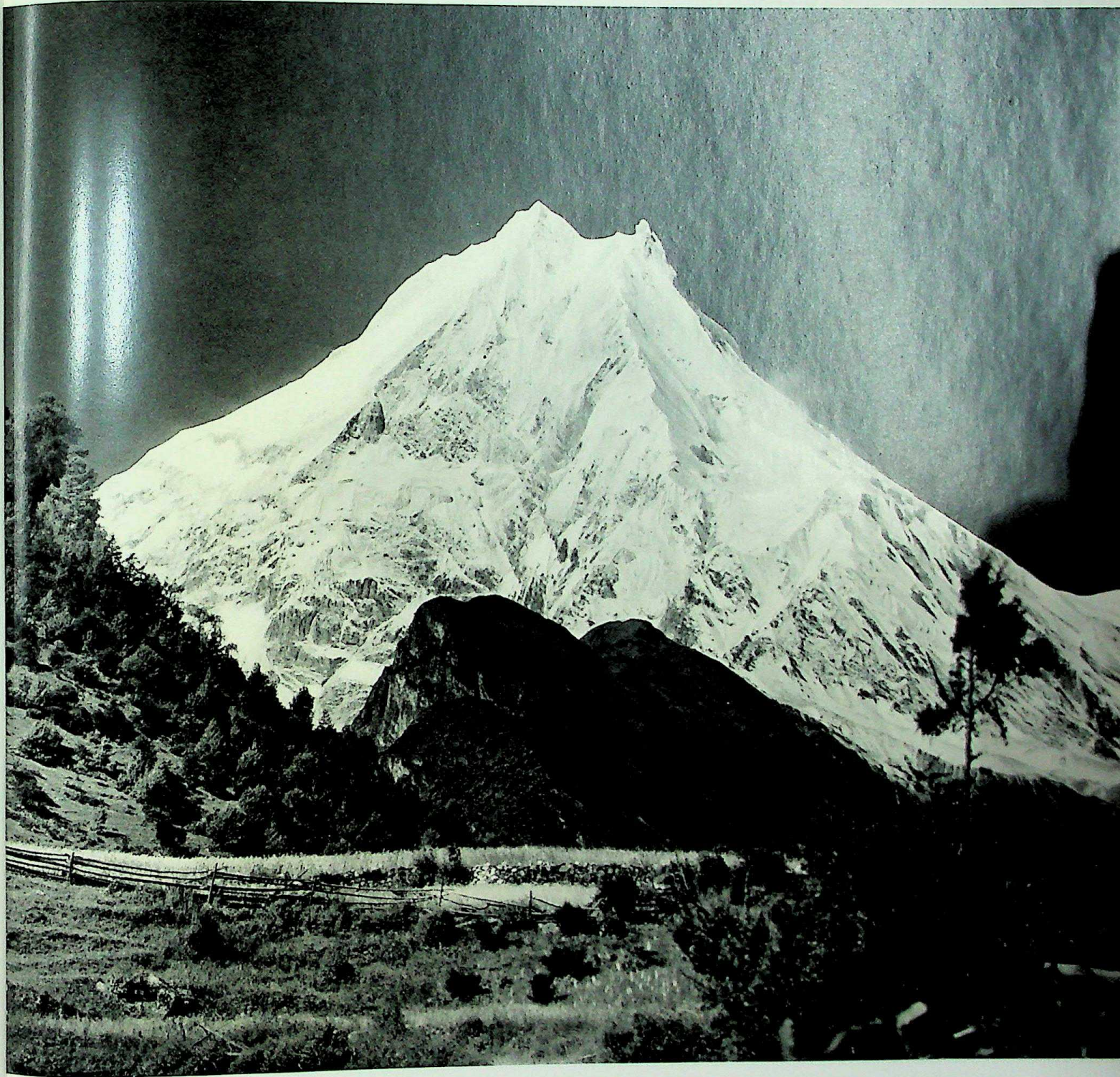






7 *Himalchuli, 7864 metres above sea-level.* View from the south-east, from the region of the little town of Gurkha. On the right is the spur known as Baudha, 6672 metres above sea-level. Himalchuli is part of the Gurkha-Himal-massif (cp. Plate 5). The southern flank of Himalchuli boasts one of the greatest differences of altitude anywhere in the world: a single flank falls from a height of nearly 8000 metres into the subtropical lowland plain, which lies at an altitude of only 700 metres above sea-level, the horizontal distance being only a few miles. Nearly all the tracks in the Nepal Midlands run along the crests of the hills and the mountain-ridges, and everywhere one enjoys from these high-lying routes an unhindered view of the principal Himalaya range. This picture was taken from a point a few miles to the east of Gurkha, only 1400 metres above sea-level, on the main track between Katmandu (or Kathmandu, as it is spelt in the Survey of India) and Gurkha.

8 *Manaslu, 8125 metres above sea-level*, from the north-east. The huge granite pyramid rises white and cold from the fertile valley-floor near the big village of Sama on the upper course of the Buri-Gandaki river. The flat valley-bottom with the barley-fields in the foreground lies at an altitude of 3700 metres. The north-eastern flank of Manaslu facing us is a good 4000 metres high. The larch-woods enhance the strange contrast between the foothills and the ice-clad flank of the huge massif. The lower part of the northern flank of Manaslu (on the right in the picture) is covered by the upper Palaeozoic limestones of the Tibetan sedimentary zone. The summit lies at the junction of the granite and the sediments. Manaslu was reconnoitred for the first time by W. Tilman in 1950 and by the author in 1952. An expedition was sent to Manaslu by the Japanese in 1952. In 1953 they made the first serious attempt to climb it. They reached a point about 450 metres below the summit. In the years 1954 and 1955 further Japanese expeditions were undertaken, the mountain thus becoming a Japanese prerogative in accordance with the unwritten tradition by which a nation that has made all the preliminary preparations for the ascent of a summit is to be allowed precedence. In the year 1956 the Japanese expedition under the leadership of Yuko Maki finally conquered Manaslu, valuable scientific work being done at the same time. Besides the petrographical investigation, a geobotanical map covering extensive areas of the Manaslu- and the Annapurna-massifs should be especially mentioned.



9 *The desert landscape to the north of the principal Himalaya-range.* At the time of year when the regions that lie between 4000 and 5000 metres above sea-level are subjected to an almost vertical midday sun, that is to say, from June till September, they become intensely hot. The hot, light air rises and sucks in fresh air from the south (in Nepal from the south-east), which flows upwards on the southern flank of the Himalayas. In the process it cools off and so causes the monsoon rain. On the northern side of the Himalaya-range the air is absolutely dry.

The monsoon wind on the northern slopes of the Himalayas is only to a limited extent a descending one, as the Tibet plateau lies considerably higher than the Nepal Midlands. It is therefore also relatively cold there. As in the Föhn valleys of Switzerland and in all narrow transversal valleys, the wind in the gorge-like valleys of the Himalayas attains a tremendous velocity, thus contributing substantially to the aridity of the country. The photograph shows a view in the Mustang valley, roughly 70 kilometres to the north of Annapurna and Dhaulagiri. The valley was formed by a diagonal subsidence depression or rift (running from north to south). Formerly the whole valley was filled with water; to this, lake deposits that are many hundreds of yards thick bear eloquent testimony. In these formations (Tertiary-Quaternary), which are very recent from a geological point of view, desert erosion has created the typical arid and weathered shapes seen in the lower half of the picture. There is a complete absence of rivers to carry away the invading screes, so that the valleys are literally becoming buried in their own débris.—In the middle distance, older higher-lying valley-terraces are visible; the highest mountains in the background (Mustang-Himal, 6476 metres above sea-level) are of granite.

The countryside is absolutely deserted; only here and there one comes upon a solitary *gonpa* (Buddhist monastery) in a sheltered spot in one of the lateral valleys.





- 10 *Ethnological types in a school at Bhojpur (eastern Nepal)*. These children give an idea of the racial and ethnological diversity of the Nepalese people. There are Mongolian types beside the delicate, finely-cut Indo-Nepalese features with Aryan blood. From left to right: a Rai (ancient primitive Nepalese race), a Brahmin (priests' caste of the Indo-Nepalese race), a Chettri (mixed caste of the Indo-Nepalese race), a Thamang (primitive ancient Nepalese race), and a Sunwar (Kami, professional caste of smiths). Each of these various ethnological groups speaks its own language, but the language used in schools is Nepali, also known as Gurkhali, the language of the Gurkha Kshatriya (warrior caste of the Indo-Nepalese group of the population), who set out from Gurkha in 1762 and conquered and united the land that is today Nepal. It speaks for the dynamic nature of the Gurkhas of those days that they were able to spread their language over the whole of Nepal within such a short space of time, for then as now, Nepal had no means of communication or traffic. Nepali is understood today almost everywhere in Nepal, but among themselves the various national groups make use almost exclusively of their old primitive vernacular. Thus, for instance, even the Newars in Kathmandu, the capital, use mostly the Newar idiom in speech and writing.

- 11 *Lookers-on in front of the tent*. Girls of the Gulunge-Rai tribe in the Hongu valley in eastern Nepal. The Hongu valley lies to the south of the Everest-massif and has until now scarcely been visited by foreigners. The Sherpas tell each other blood-curdling tales about its hostile inhabitants.

Great was the astonishment of the people when we suddenly appeared in this valley from the high mountains. None of the Sherpas or the porters could understand the language of the Gulunge-Rais, who live only in this one remote valley, entirely isolated from the rest of the country. They were unfriendly and inhospitable, and refused to supply us with food. Even my Sherpa Aila was unsuccessful when he made his way to the headman of the village with a letter from the government, which usually worked wonders. He was curtly given to understand that the people in Kathmandu had no authority in their valley. I must, however, add that this was the one and only time on my expeditions in Nepal that I did not find the people helpful, hospitable, and courteous.

The women were very shy and they fled into hiding when we drew near to the village. But soon their curiosity got the better of them, and one by one the heads of the pretty girls appeared over the wall behind which I had pitched my tent.



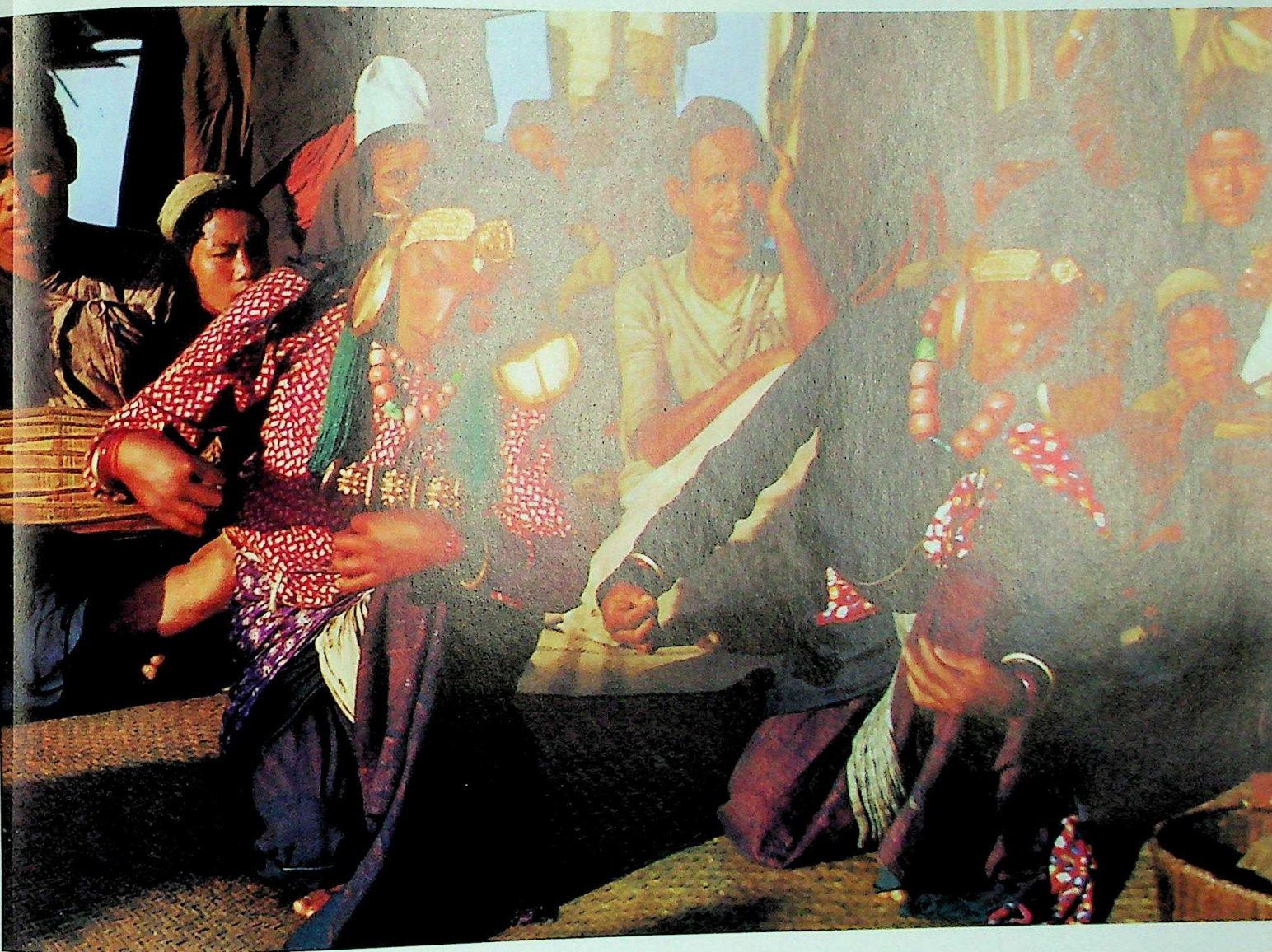


- ¹² *Nepalese primary school.* In the first years of my stay in Nepal, I very seldom came across a school, but since then great progress has been made. The government has drawn up an educational programme, and in the remote valleys the local population have put it into effect themselves. The teachers are for the most part retired Gurkha soldiers, who learnt to read and write in foreign military service. They know that illiteracy is the main obstacle to the development of their people. This school at Kusawati (eastern Nepal) was built with the resources of the local Chetri population. The small pupils are very eager to learn, and they read the words chalked on their big slates in a loud voice, their bodies rocking to and fro in time to the syllables they are pronouncing. The women mostly work in the fields, so the toddlers and babies stay behind in the charge of the bigger girls, who take them to school with them. As may be seen in the picture, this does not disturb the lessons in the least, for the little ones soon drop off to sleep, lulled by the monotonous sing-song of the pupils repeating their lessons.



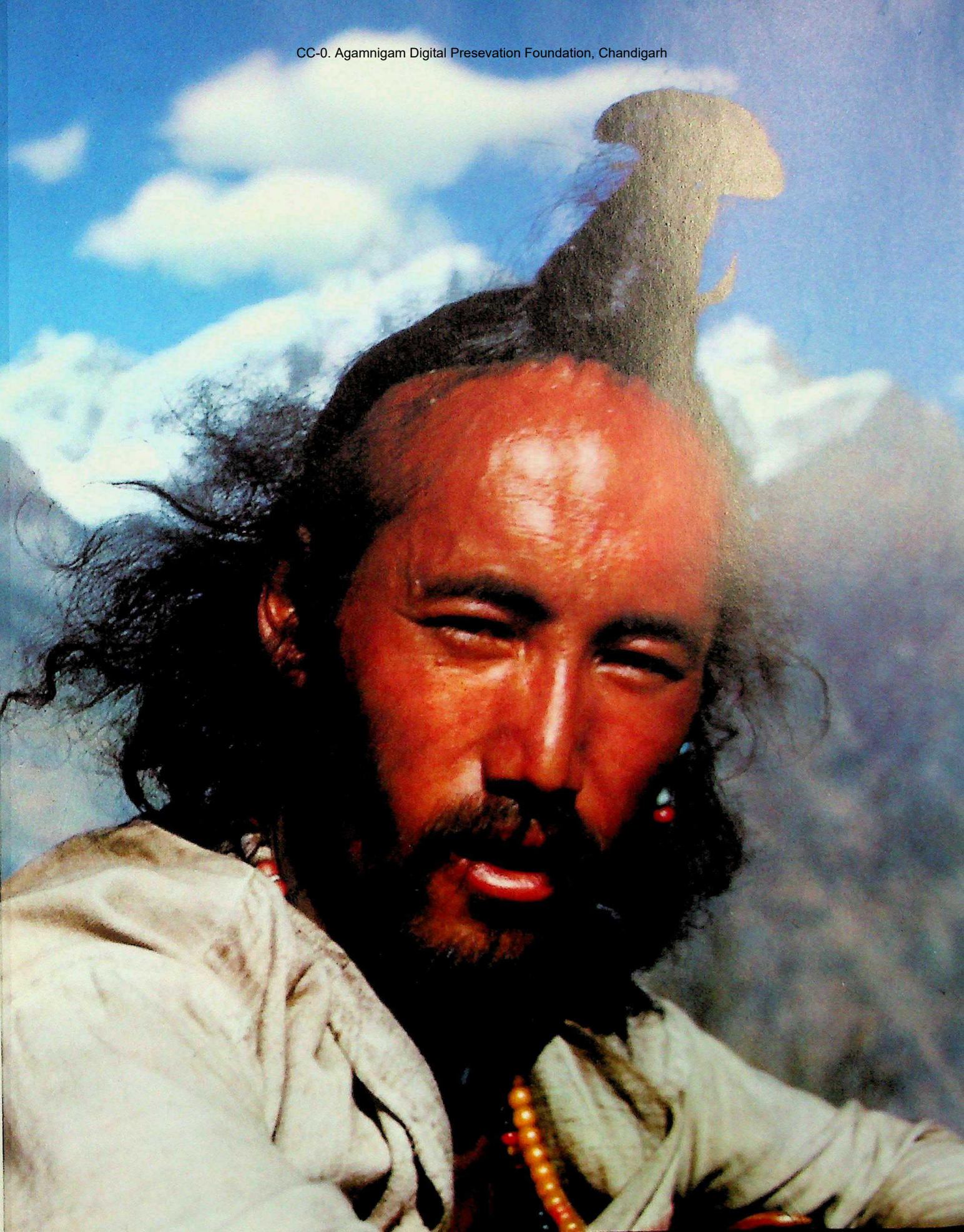
- 13 *The Nepalese are in general a gay people.* Unlike their Indian neighbours to the south, they like to laugh and sing. Big wooden "giant wheels" are very popular.
- The enjoyment of life generally seems to increase with altitude. Mountain populations have a much keener sense of humour and a more light-hearted temperament than lowland races. In contrast to the orthodox Hinduistic Indo-Nepalese population, they do not in the least despise meat and alcohol.
- In the background, Gauri Sankar (7145 metres above sea-level), seen from the west.



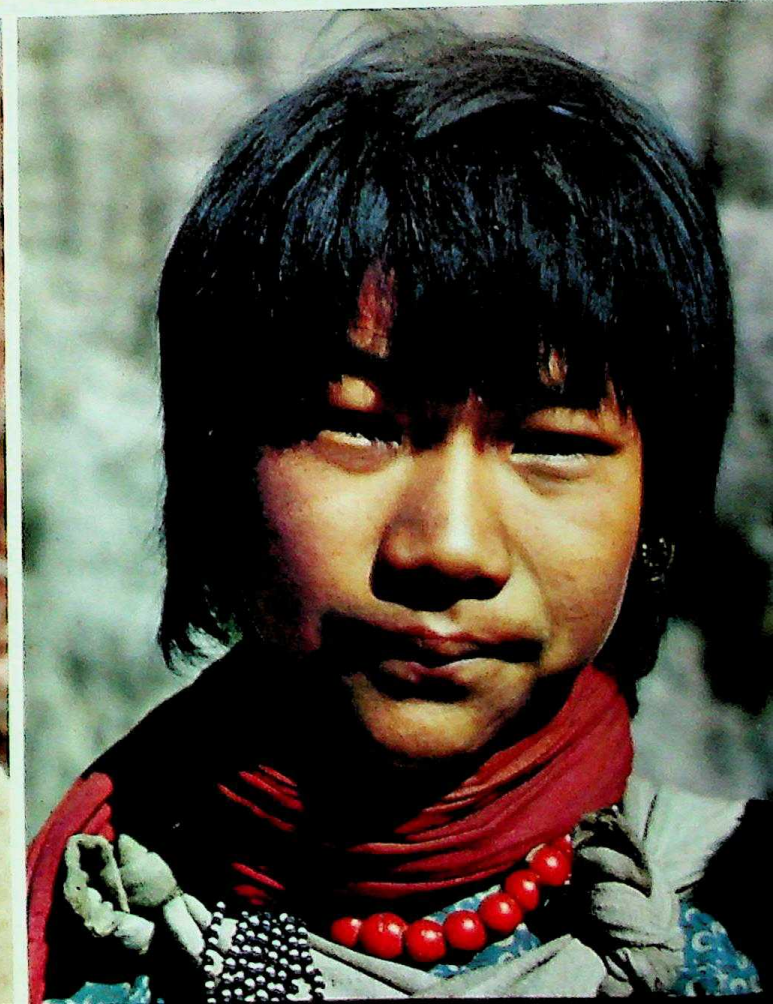
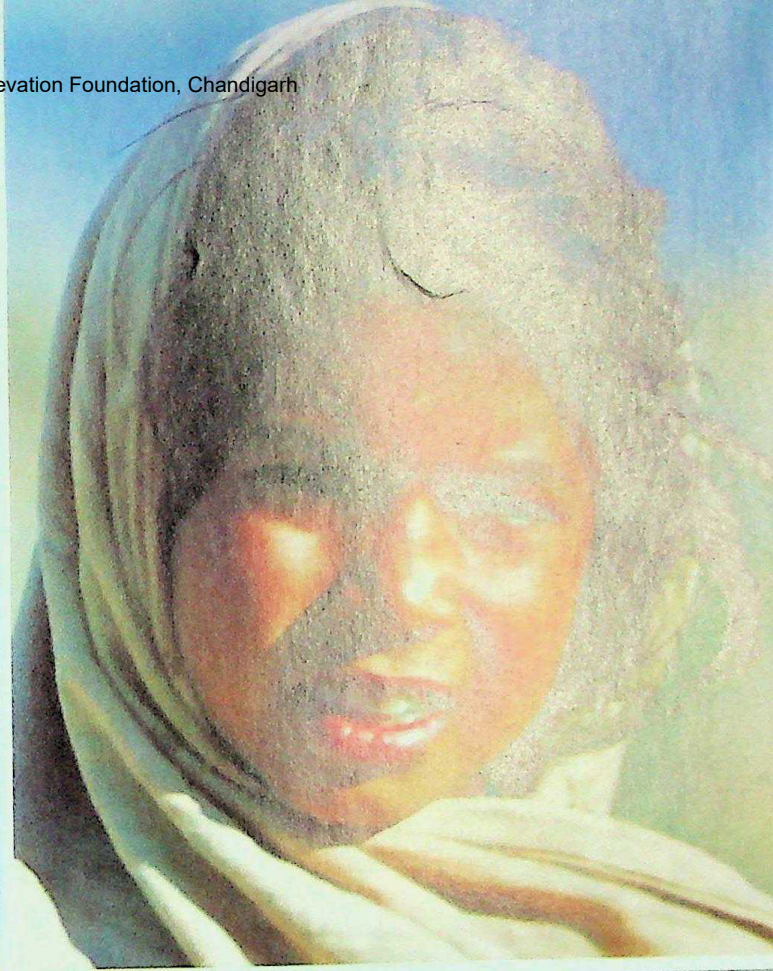
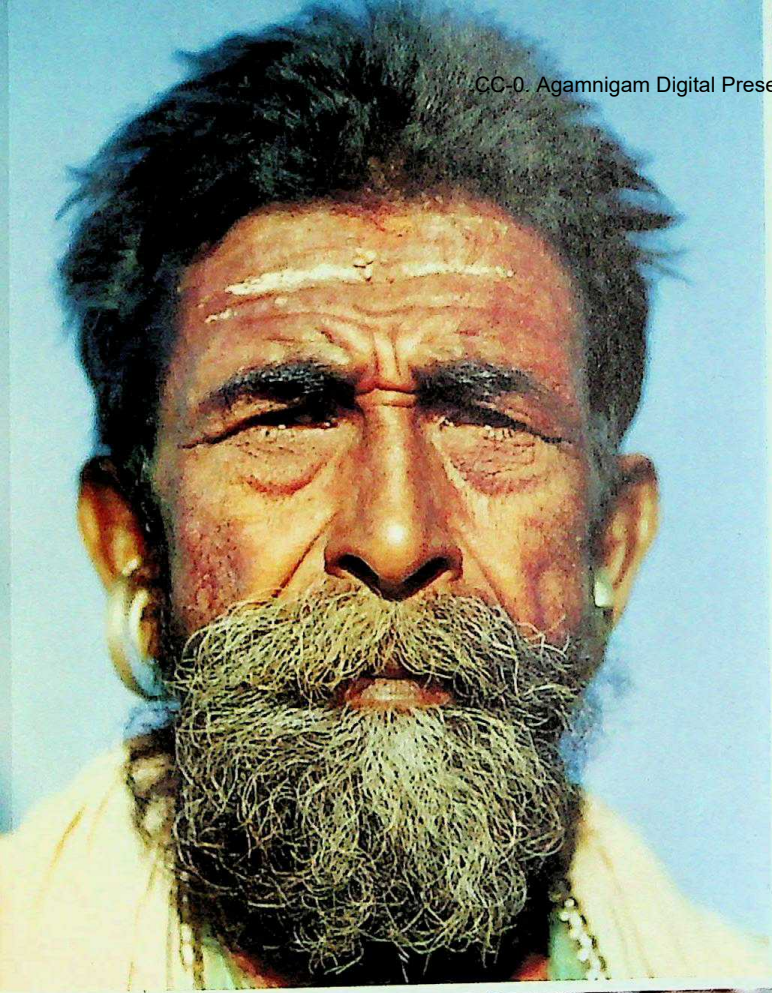


- ¹⁴ *Gurung dances in Siklis (central Nepal)*. It was one night at the beginning of the monsoon period when we reached Siklis, one of the centres of the Gurungs, after a terrible thunder-storm and torrential rain, so that we were wet through. As usual, the headman of the village at once extended to us the hospitality of his house. The local New Year's festival was at its height. Just in front of my host's house they had prepared the festival ground at nightfall. The people were in very high spirits and had presumably already partaken of quite a considerable quantity of *chang*, a home-brewed rice-beer. The men were sitting in a semi-circle with their percussion instruments and two pretty girls in festive array were dancing. Slowly they turned to the rhythm of the music, alternately drawing themselves up gradually to their full height and then letting themselves fall back again. The girls danced all through the night, and at sunrise the festival was still by no means over.

- 15 *A Nepalese salt-trader.* He is of Tibetan origin and lives in the high-lying village of Limitang (Simikot district), in the north-west of Nepal, close to the Tibetan border.
This "hair-do", with a knot of hair worn on the crown of the head, is characteristic for the people of Simikot. The Rai tribe (known in eastern Nepal by its original name of Kiranti) also used to wear their hair done up in this kind of topknot.



- 16 *A Gurkha from the town of Gurkha.* In the strict ethnological sense of the word he belongs to the Kshatriya (warrior) caste, his features betraying the Indo-Aryan influence. The eyes screwed up and with overhanging lids are not due to a Mongoloid strain, but to the glare of the sun, as may often be observed in mountain-peasants or mountain-guides.
- 17 *A Newar girl from Kathmandu.* The Newars belong to the ancient Nepalese racial group. Originally of Mongolian origin, they have become greatly admixed with elements from the south. Wherever the stock has remained relatively pure, it is characterized by the almond-shaped eyes. This is due to the fold of the upper eyelid falling entirely or partly over the lower edge of the lid. Almond-shaped eyes have thus the same slit-like shape as the Mongoloid eye, but they do not have the characteristic feature of the latter, namely, the epicanthus or a fold of skin falling over the free margin of the upper eyelid, partially or wholly obscuring the inner canthus or corner of the eye. (The difference between the Newar eye and the Gurkha eye should be noticed.)
- 18 *A Brahmin girl from Ranigaon (south-eastern Nepal).* Her finely-chiselled features and open eyes betray her Indo-Aryan descent. The Brahmins, the highest social class or caste, have always observed the strict caste-laws most carefully. That is why they are least admixed with other races.
- 19 *A Thamang youth from Gatlang (central Nepal).* The Thamangs belong to the ancient Nepalese race of Mongolian origin. Their main settlement area lies to the north of the Kathmandu valley, where they have built large villages at altitudes of up to 2400 metres above sea-level.
This young peasant lives at Gatlang in the above-mentioned Thamang centre, where his forefathers seemingly scarcely intermingled with other races. He therefore displays the primitive Mongoloid character, with squat body build, broad cheek-bones and narrow slit-shaped eyes. Numerous Thamangs, however, have emigrated from their native mountain-valleys. They are found today everywhere in the Midlands of central Nepal, especially round Kathmandu, and even down as far as the Terai. It is assumed that the Thamangs are of Tartar (or more correctly Tatar) origin.



20 *The village of Thangjet on Ganesb-Himal, 2200 metres above sea-level.* Here, in their main settlement area, the Thamangs have evolved a type of house that is reminiscent of the chalets of the Bernese Oberland in the Swiss Alps; even the stones on the low-pitched, almost flat, gabled roofs are there!

The houses, mostly two-storied, whose gables are all built parallel to the slope of the hillside, the roof-trees at right angles to the line of the valley, have beautiful carved wooden verandahs.

The terraces were cut out of the steep hillside in generations of toil. Rice is grown on the narrow horizontal terraces in the lower part of the picture, and also along the small gullies. On the larger terraces, some of which are sloping, millet is ready for reaping (October). In the fields that have already been harvested, at village level, potatoes are grown. These fields extend right up to the tree-line; above it are the mountain pastures. The villagers of Thangjet also own extensive rice or paddy-fields, partly with artificial irrigation, in the valley-bottom.

The major part of the population is therefore constantly on the move, like the Swiss Alpine cowherds, between their principal homes, the settlements down in the valley, and the dairy-settlements up in the mountains. The variety in the crops gives the food of the Nepalese mountain-peasants greater stability, and raises their standard of living. They are not dependent on a single crop as is, for instance, the peasant in the lowlands, for whom the lack of the monsoon rains causes the failure of the harvest, the result of which is famine, as there is no other possibility of obtaining enough to eat.



22 *Pamdur, 1400 metres above sea-level, a Gurung settlement in central Nepal.* Each race and group of the population in Nepal has developed its own type of house. Particularly striking are the elliptical or oval houses built by some of the Gurungs in their southern settlement area, to the west of Pamdur. (The principal settlement area of the Gurungs is on the southern flank of Annapurna.) The little houses with the whitewashed walls and a decorative brick-red band round the base look like a cluster of toadstools. The conical oval roofs are thatched, or sometimes slate-covered.

23 *Gurung houses near Sarangkot (to the west of Pokhara).* On the southern side of the roomy houses there is as a rule a semi-circular covered verandah. The hamlets are prettily grouped among the terraces. Near all the houses at altitudes up to 2000 metres above sea-level there are banana plants or "trees" (top left in picture). On the right, fields of flowering mustard can be seen.

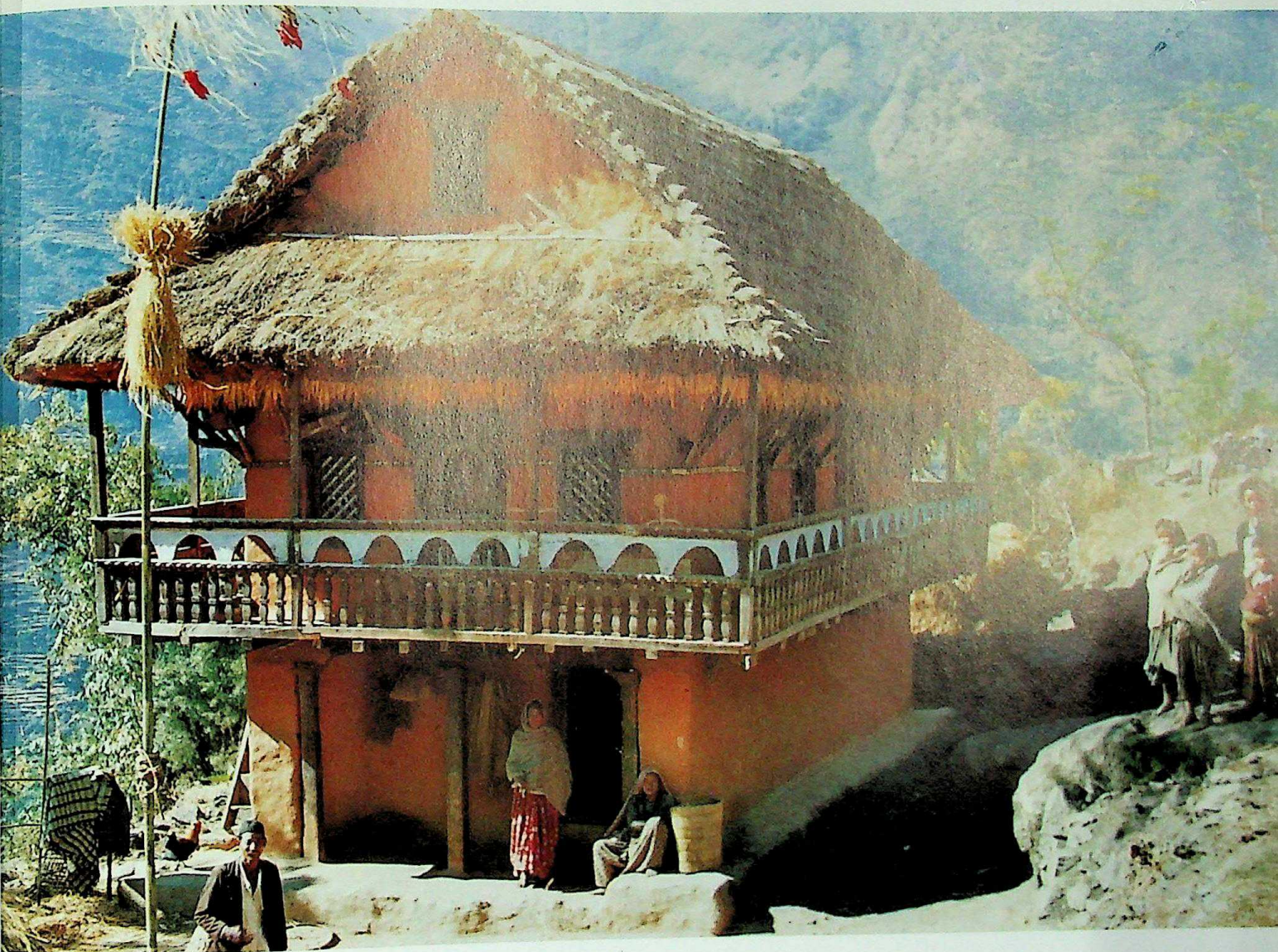
All the Nepalese villages of the Midlands are characterized—in contrast to the "silence of the grave" in Indian villages—by a great deal of noise—dogs barking, hens cackling, people singing, chattering and shouting so loudly that one might be at a fair.





- 24 *Leware, 1800 metres above sea-level, a Chetri-Gurung village in central Nepal.* The two houses on the extreme right represent the typical Chetri dwelling. The building materials vary according to the district. Here the drystone walls are constructed of stone slabs piled up on each other. In extensive parts of central Nepal, however, the walls of the houses consist of a framework of wattle, made of interwoven bamboo, which is then daubed over with mortar and mud. The slate-roofed house in the middle of the picture, with the little porch on the narrow end, represents the Gurung type of house. On the summit of the ridge stands a circular building, or "round house". The village is situated in the maize and millet zone. The corn-cobs are piled up on a framework in front of the "round house", safe from rats and mice. In the background are the ice-covered limestone rock walls of Lamjung-Himal, 6985 metres above sea-level, the easternmost spur of the Annapurna-massif.





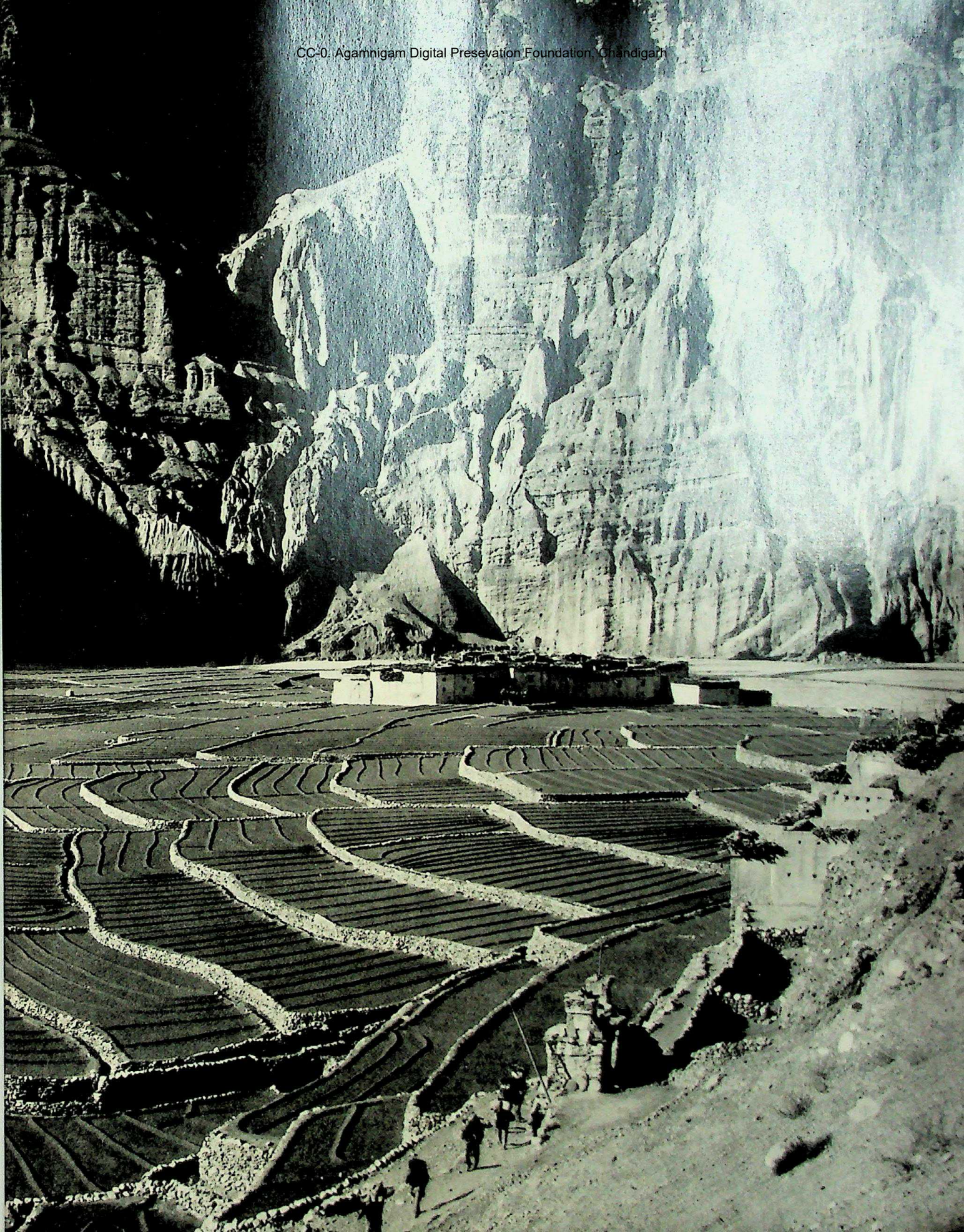
- 25 *Limbu house (to the north of Taplejung, eastern Nepal)*. The Limbus live in eastern Nepal, between the Arun river and the eastern Nepalese border. They exhibit a very strong Mongolian strain with, as a typical peculiarity, large ears that stick out from the head. They are a people who love festivals, but they are also stubborn; they do not like having to fit into a higher political system. They are said to be very quick to draw their Khukris, or Nepalese bush-knives. The well-proportioned houses of the Limbus have wooden verandahs, and are decorated with fine carving and painted in bright colours. Like the Tibetans and Sherpas, the Limbus set up prayer-flags on their houses to frighten away evil spirits. Often a bamboo pole with flowers and a bunch of straw serves the same purpose (on the left in the picture).

- 26 *The little town of Pokhara, 800 metres above sea-level.* This Newar town, important as a trading place and situated at the southern foot of Annapurna, lies amidst clumps of trees, which gives the region a park-like appearance. The Newars love flowers. Their houses are adorned with the glowing Lalipata (translated this means "red-leaf"), the Latin name of which is *Euphorbia pulcherrima* WILLDENOW. In Europe the plant is better known as *Poinsettia pulcherrima* ROB. GRAHAM, and also as "Christmas (or Advent) Star". The species belongs to the *Euphorbiaceae* (spurge) family, and came originally from tropical Mexico and Central America. In temperate zones it is cultivated in hot-houses; in tropical and sub-tropical regions it grows outdoors, forming bushes 3-5 metres high, and it is cultivated in many places.
- In winter Pokhara is a paradise for ethnologists and anthropologists. Here the most various races from the surrounding hills and even from Tibet and India haggle and do a busy trade. A number of rich traders from the Thakkhola valley (to the north of Annapurna) have a second and permanent place of residence at Pokhara.
- The market is a very lively place; now and again there are fights, for the Indian *marmari* (traders) are not always fair in their dealings.



27 *The village of Chbuk, 2950 metres above sea-level.* Here, in the northern part of Thakkhola (upper course of the Kali Gandaki river) the country assumes the character of the Tibet mountain desert, for the Annapurna-range, situated 40 kilometres further to the south, keeps back all the rain. The cañon-like valleys are cut out of the thick young Tertiary and Quaternary sediments. Barley grows well at these altitudes, but agriculture is possible only with artificial irrigation. The lateral rivers from the glacier-covered high mountains carry water all the year round, and the population take advantage of their alluvial fans for irrigation.

The towns are fortress-like in appearance, the houses all being built on to each other, and the exterior wall being especially massive. On the roof-terraces the supplies of firewood for the winter are piled up.



- 28 *Manang, 3800 metres above sea-level, at the northern foot of the Annapurna-range.* With its more than 200 solidly-built houses, Manang is one of the largest towns in the Nepal Himalayas, and the Manang basin, on the upper part of the course of the Marsyandi river, is one of the most beautiful valley-systems in the Himalayas. Surrounded on all sides by ice-clad high mountains, the valley is wide and covered partly with mountain pastures and partly with fragrant woods of larch and pine. Small morainic lakes, their water as clear as crystal, are scattered among these woods. The deep covering of morainic soil makes the valley very fertile. Even today, a lateral glacier flows down from the northern flank of Annapurna into the principal valley. In former days this glacier barred off the valley and a big lake was dammed up there. At the foot of the far side of the valley slope the remains of the débris from an ancient landslide may still be seen. The forms, due to weathering and erosion, are remarkably reminiscent of the rugged landscape of Versam in the Vorderrhein valley in the Swiss Canton of the Grisons. The population of Manang, their culture, houses, customs and practices are Tibetan in origin. The most contradictory reports have been published about the town by foreign visitors. Its position is indeed exceptional: it is a typical haunt of smugglers!





29 *The village of Braga, 3800 metres above sea-level*, also situated on the northern side of the Annapurna-range, is only a few miles away from Manang.

The strange rock-formations in the background are due to an interglacial landslip. The circumstances are remarkably similar to those of the great prehistoric landslip at Flims in the Canton of the Grisons, as regards both the size and the geological causes. In both cases it was an immense complex of rugged limestone rocks in parallel horizontal strata, such as forms the northern slope of the valley, that crashed down into the depths. At Manang-Braga, however, the formations were older than those at Flims, namely Silurian-Devonian limestones. Just as at Flims, the rock material that fell down has filled up large parts of the valley and a large lake was dammed up behind it. The erosion forms are also similar to those of the landslip region of Flims, especially of the rugged landscape of the Versam gorge. The dark patches on the talus-fans and among the rocks are the highest straggling mountain-pines.

The inhabitants of Braga are also Tibetans. A prayer-flag waves above each house. They believe that the prayers printed on these flags rise heavenwards with each gust of wind.

The supplies of firewood and hay for the winter are piled up on the flat roofs. If the sun is shining it gets beautifully warm up there, even in the coldest season of the year. A large part of the daily lives of the people is spent on these roof-terraces, which are reached by means of the characteristic ladders cut out of a single tree-trunk. Staircases are unknown here.

30 *Chala, 4000 metres above sea-level.* This salt-traders' village is the highest on the salt-trade route from Taklakot (Tibet) to the north-west corner of Nepal. It is situated on a pass, 3 days' march inside the borders of Nepal. This difficult salt-trade route runs across two further passes: the frontier pass of Nara La, 4900 metres above sea-level, and the Sanka La, at an altitude of 5200 metres. At first sight, the village seems wretchedly poor; yet until recently the people here lived considerably better than the average Nepalese peasant. We experienced this ourselves on our four-week expedition on foot from the Indian frontier right across western Nepal to this village: the further north we got, the worse grew the roads and the poorer the people. It was impossible to obtain sugar or vegetables; even maize, which is usually so common, was unknown in many regions. The people of Chala, however, had enough of everything: sugar, rice, millet, maize, butter, all of which are commodities exchanged for salt from Tibet.

Today, now that exports from Tibet have ceased, it is probable that great poverty and distress have come to all the salt-traders' villages. At an altitude of 4000 metres, the region is not suitable for agriculture and farming, and any other industry is bound up with almost insurmountable difficulties. The assistance that we are now beginning to send should therefore not be devoted exclusively to the Tibetan refugees, but should also be extended to the local Nepalese population in the northernmost valleys.



31 *Religious ceremony at the Beding gonpa (Buddhist monastery) at an altitude of 3600 metres.* Beding lies in the Rolwaling valley, at the southern foot of Gauri Sankar. It belongs to the Sherpa settlement area, where Lamaism is still a living religion. New places of worship are still built today in many parts of the country; the famous monastery of Tengpoche, for instance, is only 40 years old. Beding *gonpa* was not yet quite finished when the sacrificial ceremonies began. The important ceremonies take place regularly every week; besides these, the Sherpas have a number of special feast-days in their calendar.

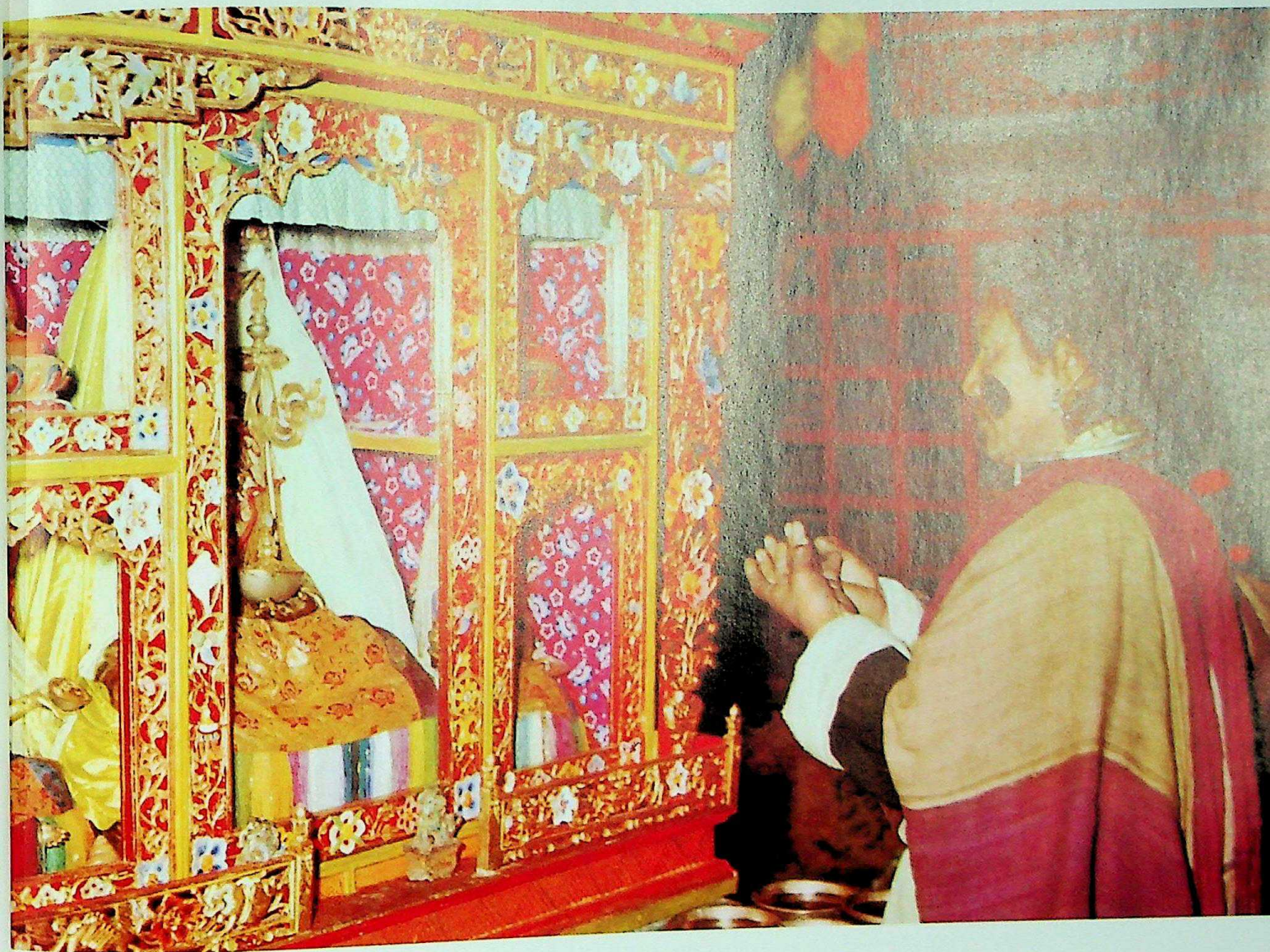
The ceremonies in the *gonpa*, in which the entire population (including children and even infants) take part, begin in the evening and last through the night. Each family brings *chang*, *torma* (rice) and butter, the latter as fuel for the countless sacrificial lamps. Some of the prayers and rites of the lamas grouped round the altar are taken from ancient parchment manuscripts.

The prayers are sung, everybody joining in lustily to the accompaniment of drums, trumpets, shells or conches, and long horns like the Swiss alphorns. It grows late, and everybody has drunk copiously of the rice-beer, for the consumption of the *chang* is an integral part of the ritual ceremony. Then they begin to dance to the singing, slowly at first, but gradually faster and more frenzied, the climax being reached at daybreak.

The Sherpa culture has achieved great importance again today. After the tragic downfall of Tibet it preserves at least a part of the old culture.

A lama is offering rice with little butter-lamps. The large vessel on the left with the little bamboo "straws" is full of *chang*; those who drink out of it at the same time, draining it at one draught, are afterwards friends for life.





32 *Buddhist gonpa at Walungchung (eastern Nepal)*. The High Lama sunk in prayer before the golden high altar of the temple. The black patch on the Lama's cheek and his finely-braided hair are his "make-up". The monastery library is kept on the shelves in the background. It consists of precious manuscripts many hundreds of years old written on parchment, with magnificent illuminations, though they were never bound as books. The loose sheets of parchment are kept in a pile, wrapped in cloths and preserved between two boards on the shelves against the wall. Cultural treasures of infinite value lie hidden here, awaiting the evaluation of scholars. Their importance is enhanced today by the events in Tibet.

33 *Near Mustang, on the Tibetan border.* High up, close to the frontier, stands a half-ruined castle, an old border-fortress from the period of the wars between Nepal and Tibet. Here the frontier runs about 80 kilometres to the north of the Annapurna-range on the principal watershed between the Tsangpo river (as the upper course of the Brahmaputra river is known in Tibet) and the Ganges.

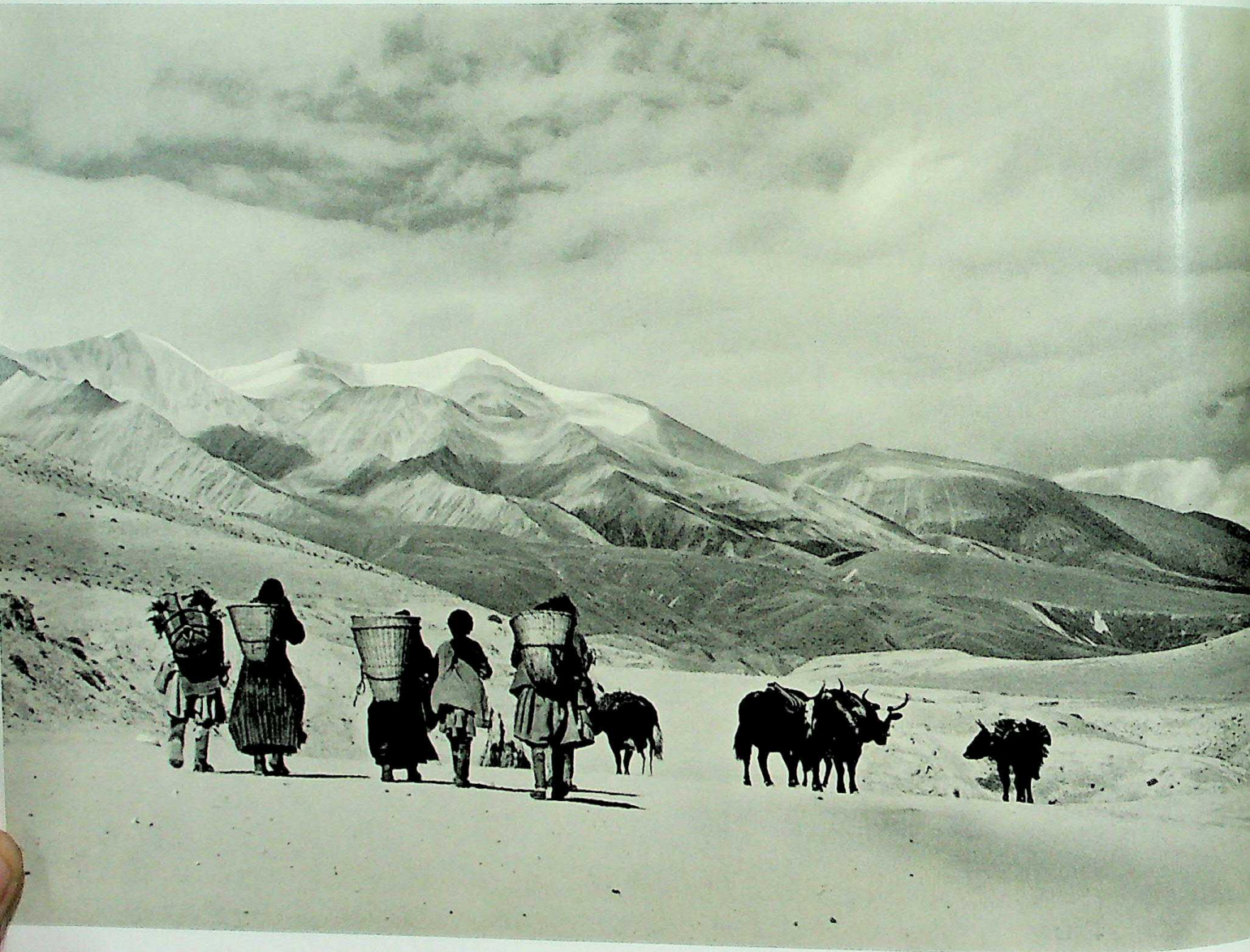
The pack-animals are herded together behind the little wall of loose white stones during the night. The enclosure also serves the purpose of keeping the various herds apart and also of protecting the animals from evil spirits, who, it appears, dislike crossing such obstacles.

The four yaks on the mountain-ridge on the horizon have just crossed the boundary. Two large flocks of sheep and goats have almost reached the Mustang valley-floor on their way down from the crest on the boundary. All the animals are laden with salt, which they are transporting to Mustang, the relay station.

The salt almost certainly comes from the dried saline lakes of Inner Tibet; but it is impossible to discover its exact place of origin. Each yak, sheep or goat caravan always covers the same section, a stretch of at most a two days' march, whereas the entire route takes 20-30 days.



- 34 *View across the wide Tibet plateau in the extreme north of Nepal.* Wide caravan routes cross the boundless high-lying plain. In fact, lorries could drive for long distances without the construction of actual roadways. Reports of the construction of "motorable roads in Tibet" do not therefore necessarily mean an intensive road-construction scheme. It is the middle of December, and an icy wind blows across the mountains, still devoid of snow. The small yak caravan has just crossed the border on its way south. For the Tibetans the long trek is a journey to Paradise. After a good ten days' march they will reach the Nepal Midlands, where "gleam the golden orange-fruits amidst the dark green leaves".





- 35 *Solitary wanderers.* Cañon-like valleys have cut their way up into the southern margin of the mountain desert of the Tibet plateau. The thick, recent deposits of gravels, sandstones and conglomerates are as brightly coloured as the rocks of the great Colorado cañon. The trade-routes leading southwards pass by steps into the valleys of the Himalayas. For many miles they run along the terraces, and then abruptly descend by a gully or debris-filled channel intersecting the steep precipice of the deep, narrow valleys to reach the next-lowest valley-floor. The air at this altitude, between 4000 and 5000 metres above sea-level, is rarified and crystal-clear. The absence of houses and trees makes it exceedingly difficult to judge sizes and distances correctly: the yak caravan that you fancy is only about a few hundred yards away crosses your path only after several hours' march. The group in the picture is climbing up through one of the gullies in the steep "step" to reach the high plateau.

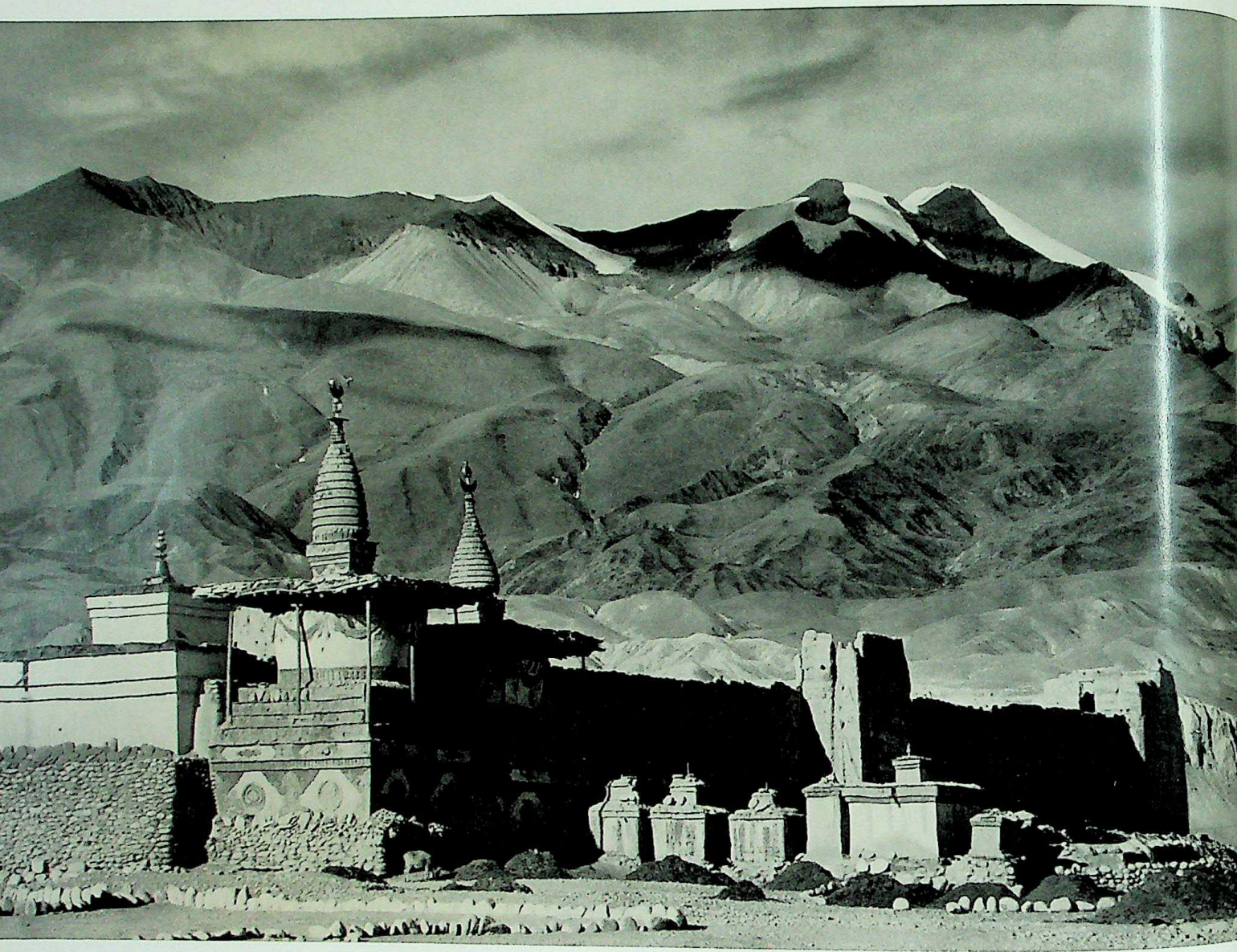
36 *Mustang, the northernmost town in Nepal.* Mustang is the capital of a semi-autonomous principality of the same name, with an area of about 90 square kilometres, lying 65 kilometres to the north of the principal chain of the Himalayas, on the meridian of Annapurna. The principality occupies the northernmost part of Thakkhola, as the upper course of the Kali Gandaki river to the north of the principal mountain-range is called. The peculiar Mustang basin, situated transversally (in a north to south direction), owes its origin to a tectonic rift or depression similar to the low-lying Upper Rhine plain between the Vosges mountains and the Black Forest.

One of the most important trade-routes runs from Tibet through this gap to Nepal and India. For this reason, settlements of a certain size and even towns could grow up here, although the aridity does not allow them to be self-supporting without artificial irrigation. The stream on whose alluvial fan the town is built makes it possible for barley to be grown in this otherwise desert climate. The willow, the only tree that thrives up here, also characteristic for Tibet, grows along the irrigation-channels (in front of the town to the left).

Mustang has a square ground-plan and is surrounded by a massive wall. Still today the town-wall is hermetically sealed from sunset to sunrise, a reminder of the days when the inhabitants had reason to fear the attacks of robbers from the north. In view of recent events in Tibet, it is perhaps more than merely a reminder! The name "Mustang" appeared, it will be remembered, in the world press in connection with the first violation of the frontier by Chinese troops in the summer of 1960.

Amaharajah of Tibetan descent is at the head of the principality of Mustang. His palace, the only building for 140 kilometres round to have glazed windows, is neatly furnished.

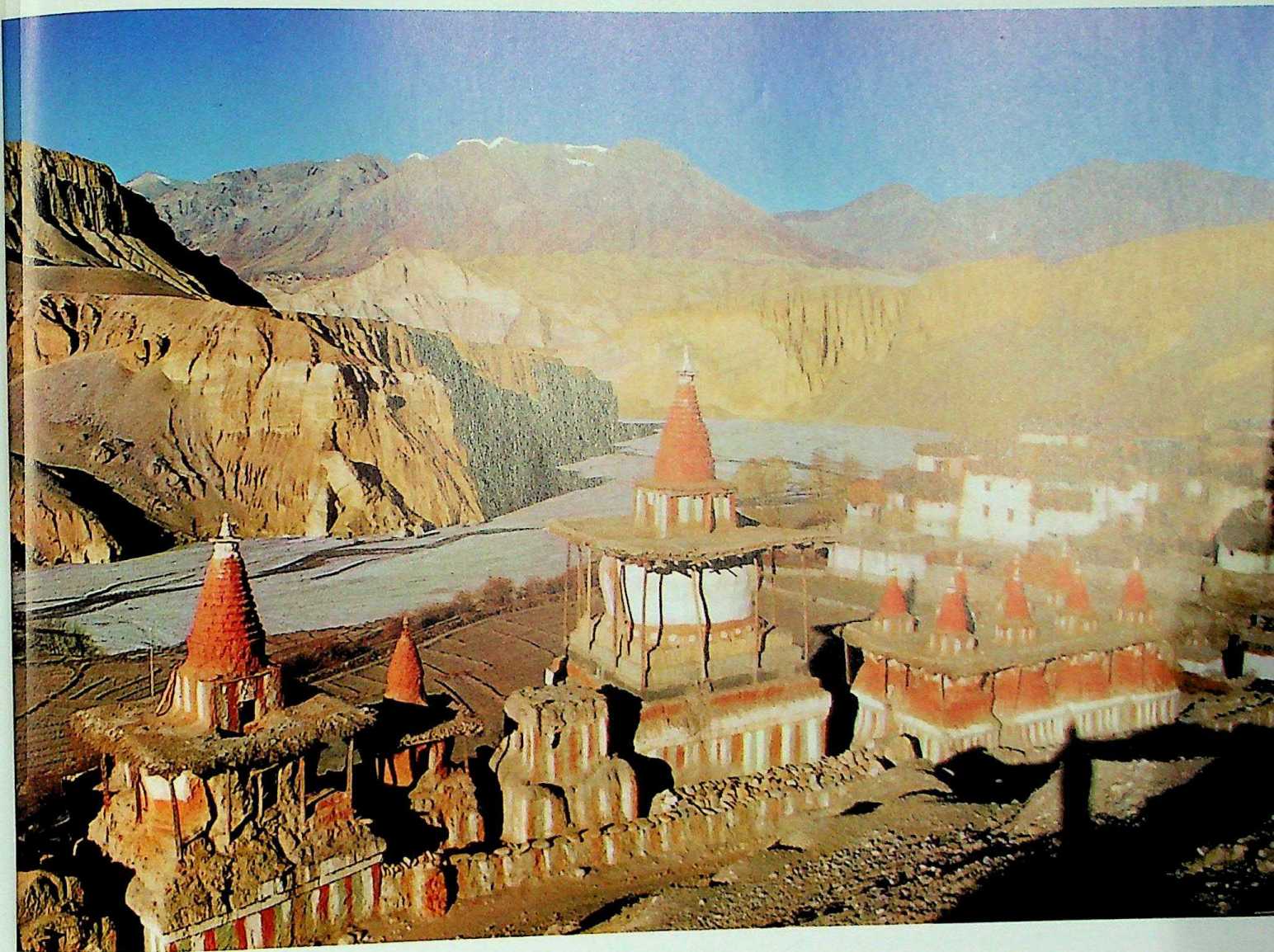




- 37 *Outside the town-wall of Mustang.* Mustang was an important trading-centre for salt from Tibet, and for agricultural produce, paper and kerosene from the Nepal Midlands. At night, large caravans of yaks, sheep, goats and mules used to encamp before the gates of the town. The stone partition-walls between the camping-places are interesting: as there are practically no trees in this region, yak-dung is the only fuel. It is therefore valuable, and it is swept up neatly into little heaps and then sold by the owner of the caravan.

- 38 *Deserted cave-dwellings in the extreme north of Nepal.* Innumerable such deserted caves are found in Thakkhola, to the north of Annapurna and Dhaulagiri. Mostly they were formerly monasteries, some of which, especially easy of access, are today the abode of Buddhist lamas. Possibly these caves also served the local population as a protection from the marauding attacks of robbers from the north.





- 39 *The village of Tange in the Mustang District, 3400 metres above sea-level.* Along the trade-routes in the spreading expanses of the Tibet plateau lie villages with rich Buddhist monuments. The solitude of remote settlements, a nomadic way of life, pilgrimages that may last for months to the great sanctuaries in Tibet and Nepal, and long trading trips have undoubtedly moulded this human type that is so suited to meditation. For centuries life has remained unchanged in these regions. I know of no people that embodies such a gay spirit and the "milk of human kindness" towards their fellow-men and every living creature, combined with a deep inward peace, as the Tibetans. The landscape has a "heroic" character, with boundless uplands, gleaming in yellow and reddish hues, and everywhere the serenity and majesty of the high mountain-ranges. The old walls, however, breathe life into the cold immensity—the soul of the Tibetan people, who have until now lived in this majestic solitude "beyond good and evil".

40 *Tukucha, 2400 metres above sea-level, the great caravanserai between Annapurna and Dhaulagiri.* The flat valley-floor extends for a distance of 35 kilometres from this point towards the north. At the southern end of the valley-floor, in the background, the gorge of the Kali Gandaki river, undoubtedly the deepest in the world, opens between Annapurna on the left and Dhaulagiri on the right. Within a few miles as the crow flies, the river falls from 2400 metres to a mere 1100 metres. Between Annapurna (8078 metres) and Dhaulagiri (8172 metres), whose summits towering up into the sky are scarcely 35 kilometres apart, the valley-floor lies at an altitude of only 1100 metres.

The whole Thakkhola valley was once filled by a huge tectonic lake. This has been proved by the discovery of lake deposits. The lake was caused by the uplifting of the Great Himalayas, which are younger than the course of the Kali Gandaki river, and this uplift is still in progress. The Kali Gandaki river flows over the northernmost granite step (the last dark ridge of rock in the background of the picture), and it has not yet succeeded in eroding for itself a bed in the flat valley-floor, i. e. the river has not yet reached its base-level. The impression received is that of a "drowned" valley.

Tukucha is situated immediately to the north of the boundary between the monsoon climate and the arid desert climate of Tibet. The woods of larch and pine visible in the picture are the last in this valley. Further north there is practically only a desert vegetation, such as may be seen in the foreground of the picture, i. e. stunted bushes and grasses.

There can be no doubt that the climate is degenerating. Many traces of earlier agricultural terraces, long-deserted villages, and ruined towns are found. There are dozens of valleys like that of the Kali Gandaki everywhere in Nepal.

With the extensive flat basins at high altitudes and huge "steps", they are predestined for hydro-electric plants.



41 *At the northern foot of Dhaulagiri.* The Kali Gandaki valley is a broad alluvial plain. On either side rise the steep slopes of Annapurna on the one side and Dhaulagiri on the other.

The terraced fields in the background are the highest on which maize is grown in the north. Still further north only barley thrives, and then only on artificially irrigated alluvial fans.

The important Mustang trade-route from the Nepal midlands runs through this valley to Tibet. Until recently, innumerable big yak-caravans used to pass through the valley. The melodious cries of the drivers were reminiscent of the Swiss yodel heard in the Canton of Appenzell. Many of the yaks wear huge cow-bells and give the whole scene the appearance of a Swiss Alpine "transhumance", when the cattle from the lowland plains are driven up to the summer pastures in the Alps.

The Tibetans and Thakals bring the salt on pack-animals as far as the upper end of the Kali Gandaki gorge. This is the mart for their wares; for in the gorge the paths are impracticable for animals. Narrow footpaths and suspension-bridges of bast (Plate 44) lead down the steep, rocky slopes. The Nepalese peasants carry the salt home on their backs.





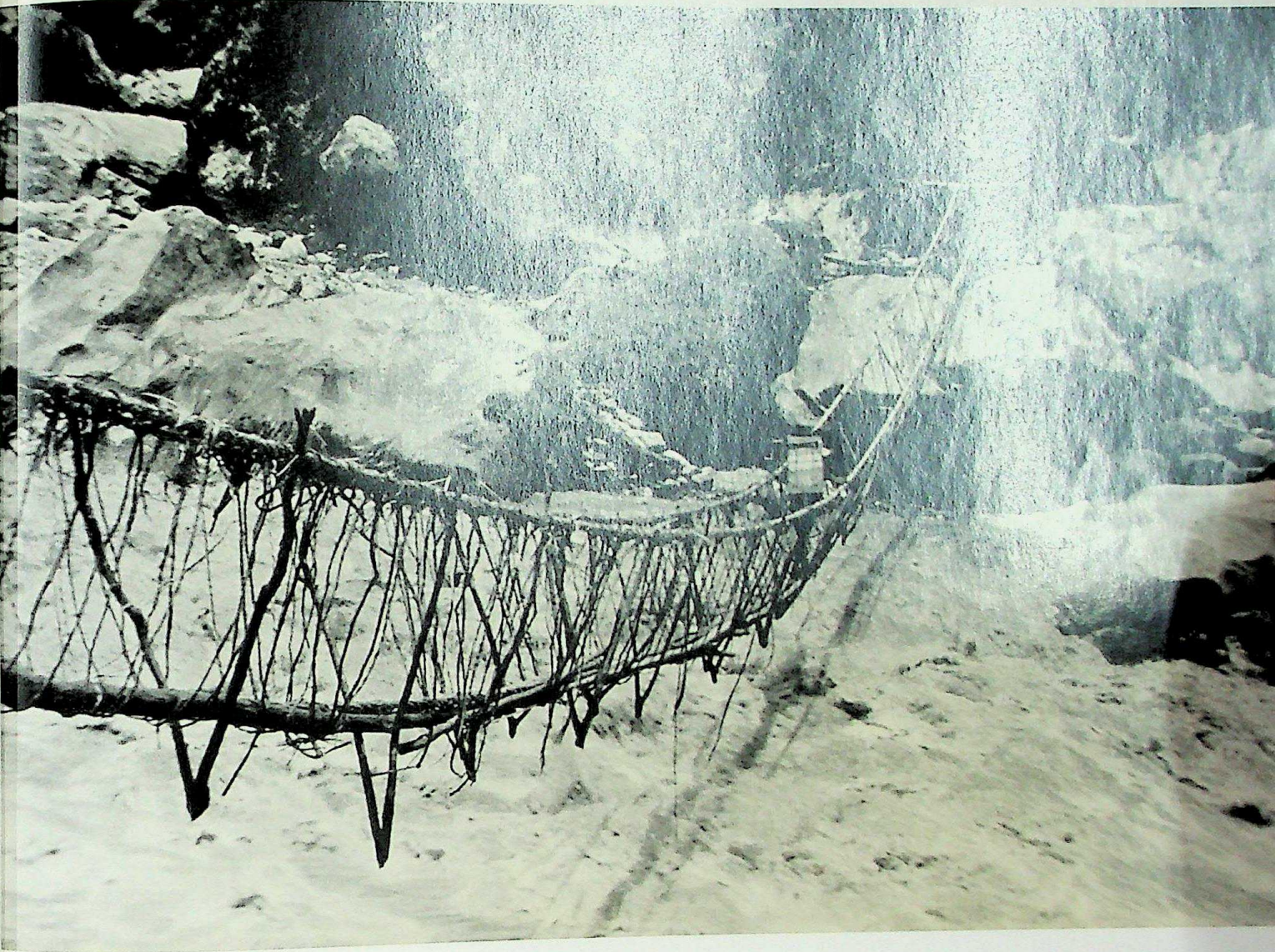
42 *Uncomfortable conveyance.* Not every Tibetan child is lucky enough to find room in a basket. The journey from Tibet into the Nepal Midlands takes three to four weeks, and tiny tots often have to walk for several hours a day. When they are tired, they are tied for a couple of hours on the sacks of salt on the back of a yak or a *tsauri* (a cross between a yak and a Nepalese breed of cattle).

The Tibetans are past masters in the art of patching their woollen clothes and the sacks used for the transport of salt. Over and over again the garments are neatly mended until finally they come to consist entirely of patches.

- 43 *Seasonal change of habitation.* Many a family from southern Tibet used to join the last salt-caravan before winter set in, to take part in the annual trek southwards, to escape the bitter cold of the Tibet plateau and to spend the winter in the warmer south. As a rule the families take part of their livestock, such as goats, sheep and ponies, with them, while the yaks, which do not support the warm climate of the lowlands, are left behind. Some of the valleys of the interior Himalayas are almost deserted in winter as a result of this migration. The animals are mostly loaded with salt, wool, hides and semi-precious stones, and on the proceeds of these the family lives during the winter. Many families earn an extra income by building small bamboo-huts along the principal trade-routes and serving *chang*, the famous rice-beer. For instance, a large proportion of the population of Thakkhola may be found as "inn-keepers" in the valleys around Pokhara and further south in the Andhi valley, along the main road to Tansing-Bhairava. These "hotels", as the "beer-halls" are styled by the Sherpas, are very well frequented, especially as, here as elsewhere, the beer is drawn and served by the prettiest girls.



- 44 *The suspension-bridge over the Marsyandi river.* The Marsyandi river drains the northern flanks of Annapurna and Manaslu, threading its way through a huge gorge between these two high mountain-ranges. In the region of its upper course, along the northern flank of Annapurna, there are quite large towns and villages, such as Manang (Plate 28). The only connection with the Nepal Midlands passes across the bridge in the picture, which does not look very safe. Its ropes are made only of plaited bark and bast, and the "cat-walk" consists of thin stems of trees loosely tied together. When the snow is melting and the river is in spate, the middle part of the bridge is sometimes washed away. There are dozens of such primitive and dangerous bridges in Nepal, but the Marsyandi bridge is project No. 1 on the Nepalese bridge-building programme. Swiss engineers are to replace it by a strong suspension-bridge, higher than the present one, supported by steel-wire ropes, thus fulfilling the heart's desire of the Nepalese country-people.



45 *The tragedy of the bridges.* The gorges of the transversal rivers that breach the Great Himalayas are the worst “bottle-necks” for the traffic and for the connection between the northern valleys with the Nepal Midlands. Before the warlike events in Tibet, there used to be a lively intercourse here: Nepalese peasants from the Midlands, heavily laden with agricultural produce, on their way northwards to the great caravanserais, to exchange their wares for salt. Several decades ago an enlightened maharaja had British engineers build a number of strong suspension-bridges with ties and trusses of steel-wire rope, and with a bridge floor that could be crossed by pack-animals. Deficient upkeep and lack of local initiative let them go to rack and ruin, and in the course of time the flood-waters destroyed most of these once-strong bridges.

The Tatopani suspension-bridge (in the picture) is in the Kali Gandaki gorge. The whole Thakkhola district and Mustang is connected with the Nepal Midlands only by this one bridge; for the second bridge at Diplang was completely destroyed by the monsoon in 1954. The first damage, which was slight, was caused by the swollen state of the river in 1952. In the year 1957, when I took this photograph, the eastern end of the planking was already so severely damaged that it could no longer be used. Finally the peasants sought to help themselves by piling up a bank or wall of loose boulders from the river-bed to a height of about twenty feet, and by laying a tree-trunk across it. They are now able to reach the loose end of the “gangway” from the wall; but during the rainy season the waters of the Kali Gandaki often rise a further twenty feet or so! Then the frail “bridge” will, of course, be swept away, and the Thakkhola valley cut off for months from the south. On the other hand, there is a good line of communication with Tibet, i.e. China, all the year round. It is hardly necessary to insist further upon the eminent political importance of the construction of bridges and roads in Nepal!



- 46 *The much-frequented trade-route through the Arun valley (near Lamobagar, eastern Nepal).* The Arun valley is one of the largest transversal valleys in Nepal. The Arun river, whose upper course is called Phung Chu in Tibet, drains the whole northern flank of the Everest- and the Makalu-massifs and of Kangchendzönga, as well as extensive basins of the Tibet plateau. For a distance of about 100 kilometres the transversal valley of the Arun river provides the only possibility to cross the highest barrier of the Himalayas. The condition of the roads, however, beggars all description. Only thin tree-trunks leaning up against the bare face of the rock make it possible to pass along the sheer, smooth, water-worn walls south of Sempung. The "footbridge" consists of planks laid loosely upon the forks of trees and branches, which in their turn lean against the wall of rock so steeply and without being fastened in any way that it is touch and go whether the whole flimsy structure can keep its balance. If one leans up against the rocky wall, one can feel the supports swaying outwards, threatening to topple over and crash down into the depths of the raging torrent below.



47 *The raging Karnali river in its gorge at Tibru.* The transversal rivers become enormously wide in the Nepal Midlands. In the Mahabharat-chain they thread their way southwards through deep-cut gorges, and yet they are too wide for the local inhabitants to be able to build suspension-bridges with the primitive means at their disposal. So the rivers are crossed chiefly in slim dug-outs. This is always a hazardous undertaking. If a dug-out capsizes, it nearly always spells death to the people in it, as they are unable to swim.

When a dug-out is carried away by the swollen river it may be years before another one can be obtained. A new tree-trunk cannot just be fetched from the woods, as there are no means of transport. The people have no alternative but to wait patiently and hope that the water will wash a suitable tree-trunk ashore; and then to hope that, at just the right moment, there may be someone at that particular spot to catch the log and pull it ashore.

In this dug-out, the passengers are lying down at the bottom of the frail craft to diminish the danger of overturning.



- 48 *A scorpion from the Terai, the Nepalese part of the marshy Ganges plain.* Scorpions are very common in the Terai. They are about $3\frac{1}{2}$ inches or 10 centimetres long, and their sting is dangerous and extremely painful. The inhabitants of the Terai say that a snake-bite is harmless compared with the sting of a scorpion. One of the reasons why most of the houses in the northern part of the Terai are built on piles is that it provides protection from the scorpions.





49 *In the temperate Nepal Midlands.* For the Tibetans who spend the winter there the mild climate of the lowlands is a kind of Paradise. The children often play about stark naked, only too glad to cast their heavy Tibetan clothes.

50 *Terai*. A strip of Nepalese territory 20–40 kilometres wide at the foot of the hills in the extreme south.

It will one day play an important part in the economy of Nepal, for the soil is fertile, and the plain is suitable for large-scale agricultural development. By means of additional artificial irrigation two harvests a year could easily be produced. But this is a dream of the future! At present the Terai is still one of the worst malaria spots in the world. In the jungles there are still many tigers, leopards, bears, rhinoceroses and buffaloes. In many of the rivers there are crocodiles, while snakes and scorpions are dreaded on land. Between March and November the Terai is shunned by the natives; in winter, on the contrary, a steady stream of peasants bearing heavy loads on their backs pours southwards along all the numerous routes from the mountainous hinterland (Plate). The Terai is the only region in Nepal—with the exception of the capital—where the wheel and the cart are known; but during the dry season the cart-tracks are knee-deep in dust, and during the rainy period a still deeper morass makes it utterly impassable.





51 *Rhododendron arboreum* SMITH, arboriform alpine rose. The genus *Rhododendron*, represented by numerous species, grows everywhere in the Himalaya region. The best known is the species *Rhododendron arboreum*, which, in the lower and middle altitudes, even grow to be big trees. The one in the photograph, for instance, is 18 metres or about 60 feet high! As the altitude increases, the bushes get smaller, finally resembling the Swiss alpine roses (Alpenrose). Two principal species are found, one of which has deep red blooms (Plate 54) and the other pale pink ones.

This photograph was taken in the Midlands to the west of Jajarkot (cp. relief map), at an altitude of 2100 metres, just at the lower limit of the tropical woods consisting of rhododendrons and mixed deciduous trees (of the Mahabharat Lakh type in the diagram, fig. 5). It was the end of March, and the tree was in full bloom. The flowers attain a diameter of as much as 8 centimetres, which is about $3\frac{1}{4}$ inches (cp. Plate 54).

The flowering-period varies according to the altitude: in the lower regions of the Mahabharat Lakh the earliest blooms appear already in the middle of January; up in the mountains, however, close to the tree-line, the flowers open only in April or May. On the southern flank of the Himalayas there are dense woods of flowering rhododendrons in April, spreading over the entire valley-slope like a red carpet.

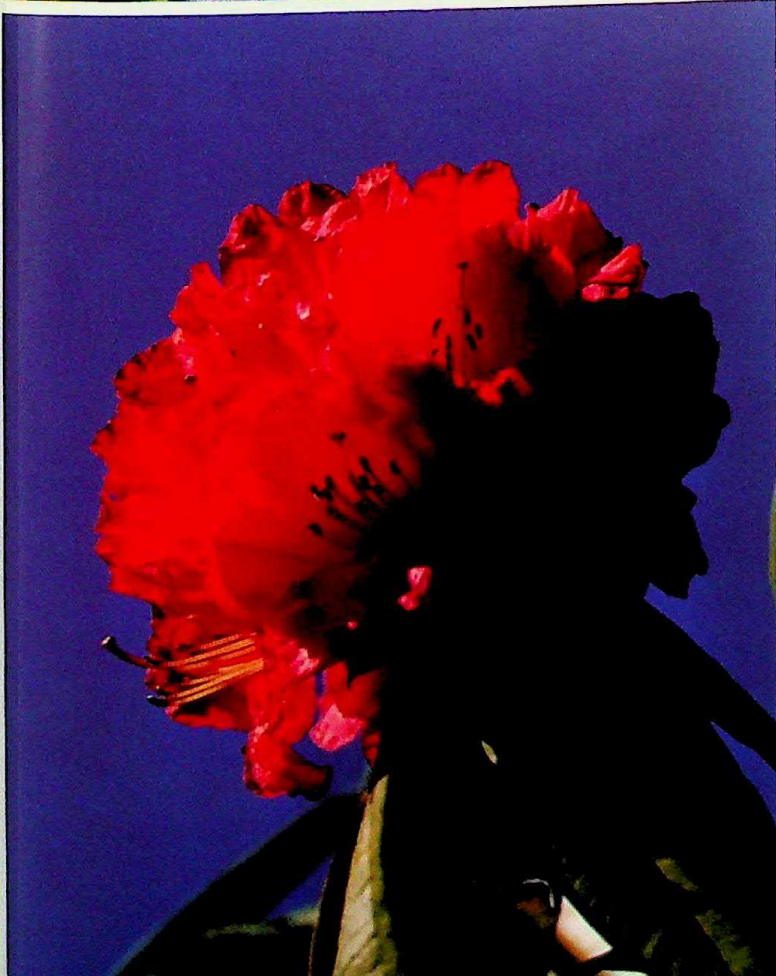
52 *Gentian*. Natural flora in the Langtang valley at an altitude of circa 4000 metres. The photograph was taken at the end of October, after the rainy season. After months of dull weather the sun begins to shine again, and the lush mountain pastures are covered with a thick carpet of edelweiss, gentians and wild orchids.

Our photograph shows a *Gentiana ornata* WALLICH ("ornate" gentian). The calyx of this species is about 6 centimetres (some $2\frac{1}{2}$ inches) long and stalkless; it is rather like the *Gentiana Kochiana* that grows in the Swiss Alps.

53 *Coelogyne* spec., orchid. Numerous varieties of orchid are found growing wild in the Nepal Himalayas. They are found from the Terai (Ganges plain, 200 metres above sea-level) up to altitudes above 3000 metres, from the Mahabharat Lakh to the Himalayas. This photograph was taken in January; the bloom was found near Ra, on Karnali (800 metres above sea-level) in south-west Nepal (cp. relief map), that is to say, in a deep gorge in the Mahabharat Lakh. It is about 5-6 centimetres long, some $2-2\frac{1}{2}$ inches; it is a *Coelogyne* species, which grows on shrubs that attain man's height.

54 *Rhododendron arboreum* SMITH, arboriform alpine rose. Single inflorescence from a tree of the Mahabharat type with deep red flowers (cp. Plate 51, and fig. 5 in the text section). At an altitude of 2200 metres, near Kaphli in west Nepal, the tall trees of this Alpenrose species were flowering in February.

55 *Osbeckia stellata* D. DON, stellate *Osbeckia*, near Dhundras in west Nepal at an elevation of 1200 metres. This plant is widely found in the Nepal Midlands, predominantly in hedgerows by the wayside. It is an indigenous plant belonging to the *Melastomataceae* order, which man has helped to spread. Its habitat extends from India to China. The *Osbeckia stellata* forms dense bushes that grow to the height of a man, and the flowers attain a diameter of 4 centimetres, or just over $1\frac{1}{2}$ inches.

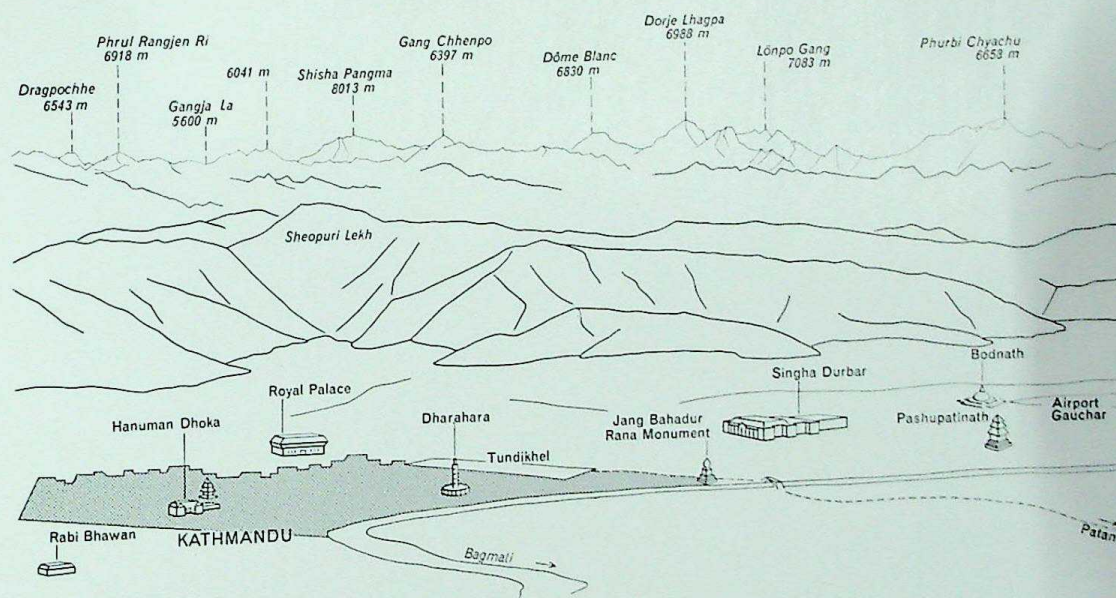


56 *Butea spec.* (Leguminosae). The jungles of the western Nepalese Terai are the habitat of this leguminous species. The flaming orange-red flowers, which attain a length of up to 6 centimetres, or about $2\frac{1}{2}$ inches, grow straight out of the wood on big trees. (The photograph was taken in January near Tsamali, at an altitude of 300 metres.)



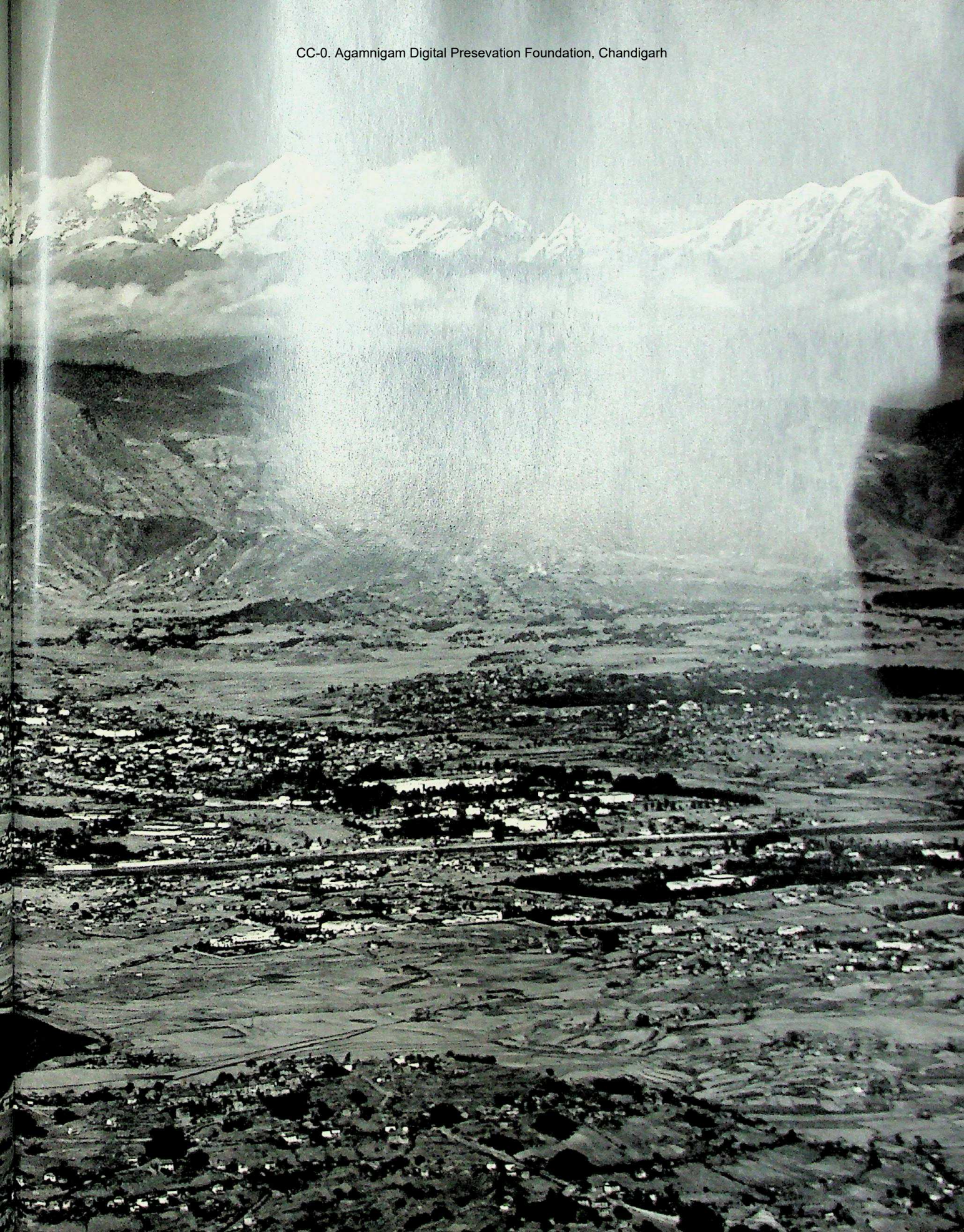


57 *Bougainvillea*. This cultivated plant, originally a native only of Brasil, grows extensively on walls and houses in Nepal, as in other tropical and sub-tropical regions. It is found everywhere in the Midlands and flowers almost continuously from early spring until well on into the autumn. This photograph of a plant growing against the wall of a house was taken in February in west Nepal, near Rekcha (1100 metres above the sea). It is a *Bougainvillea glabra* Choisy.

Panorama Kathmandu

- 58 *The valley of Kathmandu, the capital of Nepal*, is situated 1400 metres above sea-level, and has an area of 700 square kilometres. "Nepal", as the valley is called by the Nepalese, is the home of the Newars, who still today constitute the major part of the population. About 500,000 people live there, so the vale of Nepal is densely populated. Kathmandu was founded in the year 723; today it has a population of 105,000. Most of these people are concentrated in the nucleus of the town itself (to the left in the picture). In the surroundings are the huge estates of the aristocratic families, above all of the Ranas, with their gleaming white palaces. These are an outward sign and reminder of the corrupt taxation policy of the government during the last century up to 1950. The total revenue from taxes actually went into the pockets of the prime ministers and their relatives. No accounts of either receipts or expenditure were ever kept or published. If it is borne in mind that these lucrative offices were hereditary, an idea of the wealth of these privileged families may be obtained.

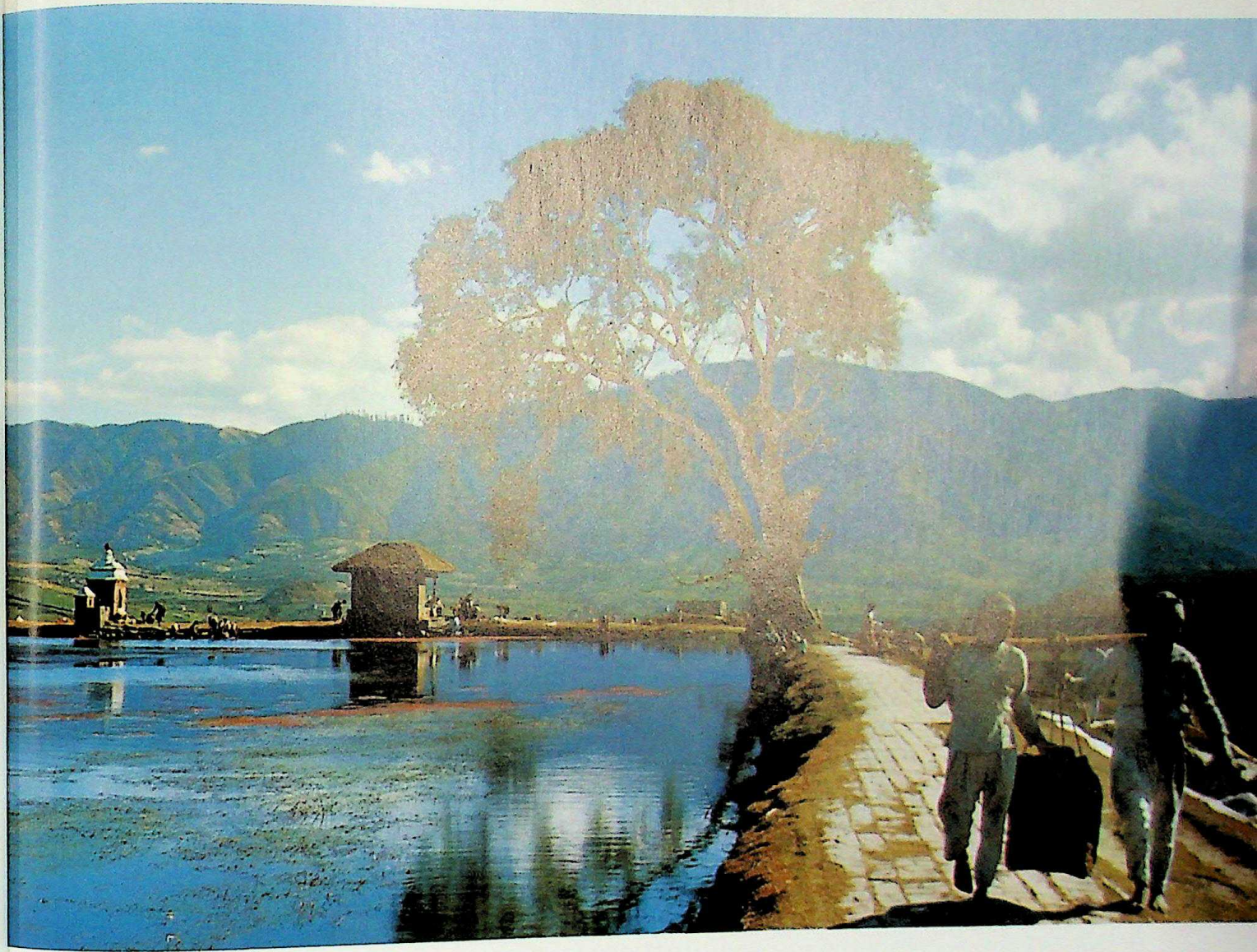




The myth of the origin of the vale of Nepal. A legend runs as follows: Once upon a time the whole valley was filled by a lake, in which lived Naga, the lord of water and rain. Various Buddhas of antiquity had visited the lake and predicted for it an auspicious future. Then came the Bodhisattva Manjusri from the holy mountain Wu-taischan in China, cleft with his mighty sword the Kotwal mountain to the south of the lake (today the Mahabharat-range) thus providing an outlet for the water. This is the origin of the holy Bagmati river.

M. Hermanns relates quite a different story: A goddess used to go down from the mountains every day to bathe in the cool waters of the lake. One day the god Bim Sin took her by surprise there; he called to her and begged her to come to him. First she refused, but then she relented, approached the god, and at the sight of him she conceived and became with child. Ten months later she gave birth to a son, whom she named Pirinaran. One day, when the boy was older, he asked his mother the name of his father. She replied, "The god Bim Sin is your father." Then she asked the god to do something for his son. The god replied, "I will give him this land", and he made a gorge through the mountains and released the waters of the lake. Then he gave the land to his son to live on. This boy was the first Newar.

- 59 *Picturesque Kathmandu valley.* Although it lies on almost the same latitude as Egypt, the Kathmandu valley enjoys a pleasant, temperate climate because it is situated at an altitude of 1400 metres above sea-level. With an average of 25° C (= 77° F) in July the temperature is not higher than, for instance, that on a warm summer day in Switzerland. In January the climate of Kathmandu may be compared with a fine October day in Central Europe. It is very exceptional for snow to fall as far down as the valley. Extensive areas are artificially irrigated, and in this way two harvests are easily brought in each year. The landscape is very pleasant, with its fields and groups of trees, its picturesque towns and villages. Our picture of an irrigation pond at the eastern edge of the town of Bhatgaon shows a view towards the south to the Mahabharat Lekh. It is washing-day for the people of the town. The clothes are beaten against big stones to get them clean, and then spread out to dry in the meadows. On the extreme left, at the edge of the pond, there is a Hinduistic shrine. The little building beside it with the big projecting roof is one of the numerous rest-houses that are found along all the main routes in the Midlands. The two Newar men in the foreground are carrying a heavy load on yokes; only the Newars use this form of transport, the other groups of the population carrying their loads on their backs, using a head-band (Plates 43 and 46).



60 *Statue of King Bhupatindra Malla in Bhatgaon.* Bhupatindra Malla, who reigned for 34 years at the beginning of the 18th century, was the most famous of those who had buildings erected in the vale of Nepal (the 5-roofed Nyatpola temple, Plate 61, was also his work). His statue stands in front of the Durbar, the former royal palace, one of the most magnificent edifices in Nepal.

The Durbar is built in the typical Nepalese style: it is constructed of bricks, and has elaborately carved and decorated wooden window-frames and doorways. The wooden framework which bears the rafters of the roof is also very decorative. The Golden Gate of the Durbar, a masterpiece of the Nepalese goldsmith's art, is especially famous. One of the 55 windows of the palace was glazed and the people gazed in amazement at the glass pane.

King Bhupatindra Malla was a liberal sovereign: he cultivated the fine arts, and above all he was tolerant of religions others than his own. For instance, he received kindly the Capucins who had been forced to flee from their mission in Lhasa, founded in 1715.

The Durbar of Bhatgaon is of historic importance—it was here that the last three Malla kings sought refuge in 1768 after Kathmandu had, by treachery, fallen into the hands of the Gurkha king, Prithwi Narayan, during the Indra festival. Gravely wounded, the last king of Kathmandu, Jaya Prakasha, was carried to the banks of the holy Bagmati river, where he died. The fall of Bhatgaon marked the end of the Malla dynasty, which had ruled over Nepal since the 14th century and had brought its culture to such heights of perfection.



61 *Nyatpola, the largest pagoda-temple in Nepal*, was built at the beginning of the 18th century by Bhupatindra Malla to whom the country owes so many magnificent buildings (cp. Plate .60). This temple was built in connection with a three-roofed temple dedicated to the god Bhairava. Surveying the country from the temple, this god was to protect the land from misfortune and every evil. Evidently, however, he did not do so, and the wise men advised the king to set up a temple for the god Iswari near Bhairava's temple. Bhairava was greatly attached to Iswari, and so it was hoped that this would gain his goodwill.

King Bhupatindra consulted the astrologers and laid the foundation-stone at a time they considered propitious. The king himself carried three bricks to the site of the temple with his own hands, and the people, inspired by this deed, transported all the materials needed for the construction of the temple to the building site in less than five days.

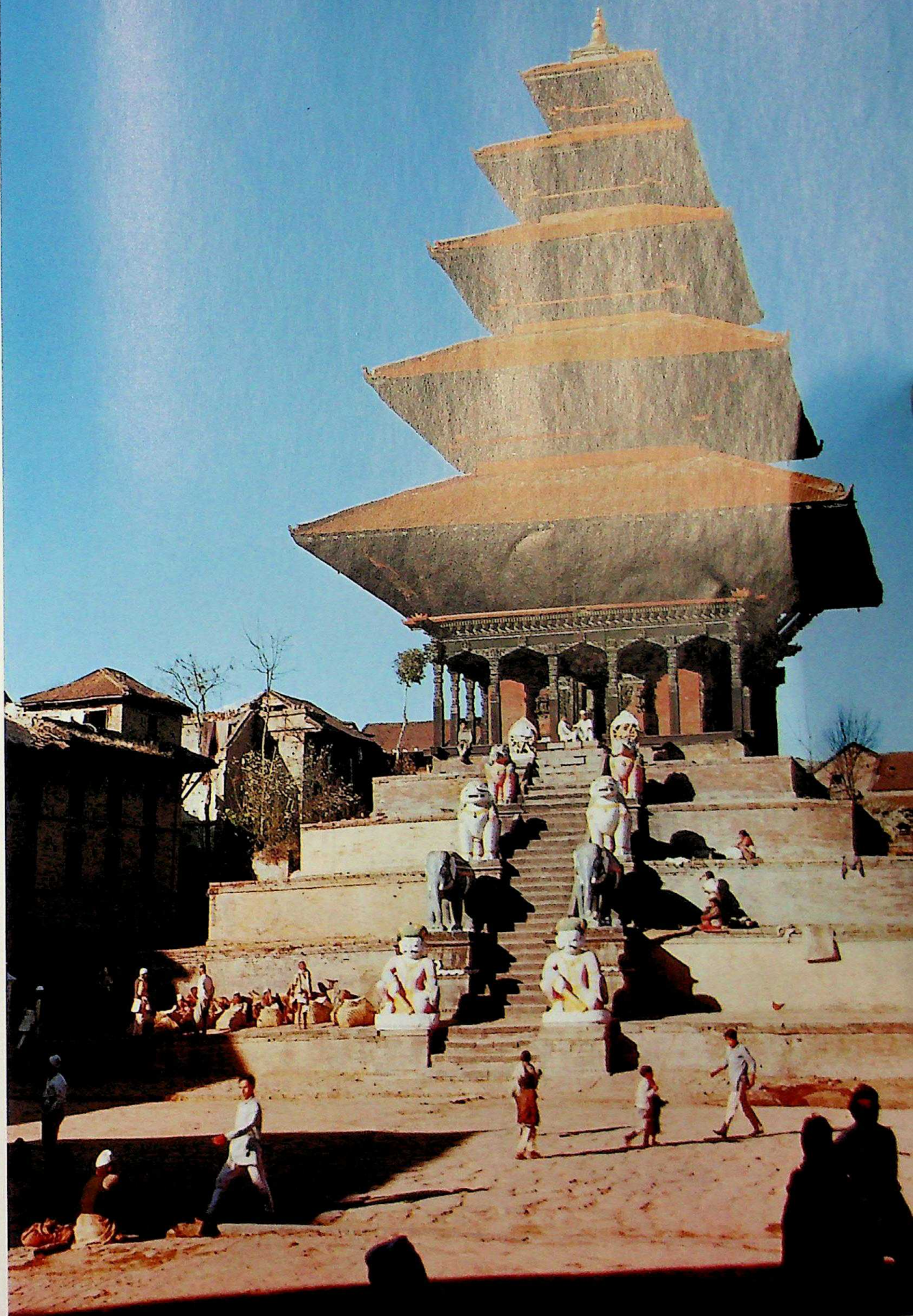
When the temple was completed, the image of a god of the Tantra Shastra was conveyed in secret into the temple. Nobody was allowed to see this god, and indeed, the secret has been kept to this day. Bhairava is said to have been assuaged, and from that time onwards he became more kindly disposed towards the country.

The pagoda, with its projecting roofs at each of the five floor-levels, is reminiscent of similar buildings in eastern Asia. Experts assume, however, that the pagoda-form had its origins in Nepal.

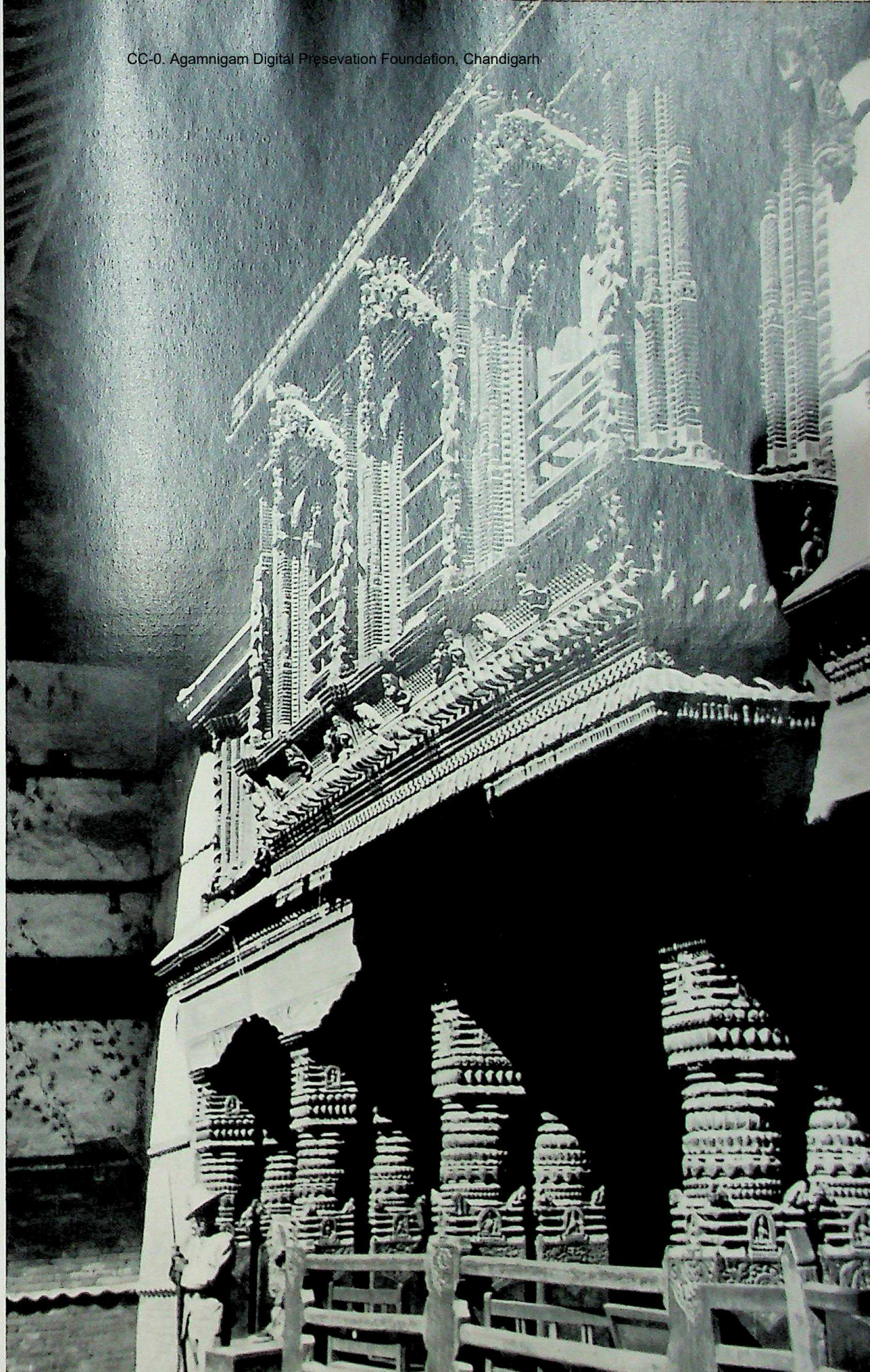
The five pairs of figures guarding the flight of steps up to the temple are taken from Indian mythology. The lowest pair represent two legendary heroes, who are ten times as strong as ordinary men. The next two figures are elephants, then come two lions, two dragons, and finally the two goddesses, the tiger-goddess Baghini and the lion-goddess Singhini. Each pair is ten times as powerful as the pair below them. The goddesses at the top are therefore ten thousand times as strong as ordinary mortals.

The wooden pillars round the base of the actual temple, as also the wooden supports of the pagoda-roofs are extremely richly ornamented with magnificent wood-carving depicting subjects from Indian mythology. A specimen is shown in Plate 65.

It is amazing that these tall, graceful buildings should have survived the many earthquakes, and especially the devastating Nepal-Bihar tremors of 1934. Numerous houses in Nepal, even entire quarters of the town, were destroyed in that catastrophe. The wooden temples have proved themselves incomparably more resistant than the brick buildings with mortar of mud. It is not surprising that the people believed that it was the gods who saved their temples from destruction.



- 62 *Magnificent example of Nepalese wood-carving.* This window is part of the old royal palace, the Durbar, in Kathmandu. In the course of time a whole temple-city has grown up round the palace, the whole complex today being known as Hanuman Dhoka. Unfortunately the compact and uniform architectonic style has been spoilt by the addition of a whitewashed building of monumental proportions in the neo-classical style of the last century. The royal family no longer lives in the Durbar; but the credentials of newly-appointed ambassadors to the royal court of Nepal are still presented there with the traditional ceremony. Until the beginning of the 16th century, Kathmandu was known as Kantipur. The town was given its new name, a legend says, because during the Machendranath procession the Kalpa-briksha (the tree of paradise) mingled with the spectators in the guise of a man. Biseta, recognizing him, caught hold of him and refused to let him go again until Kalpa-briksha promised to enable him to build a house from a single tree. Four days later Biseta received a huge sal-tree (*Shorea robusta*), and with it he built himself a large wooden house, which is still standing today in the centre of the town. Since then, Kantipur has been called Kathmando (Kath = wood; Mando = house), or Kathmandu.



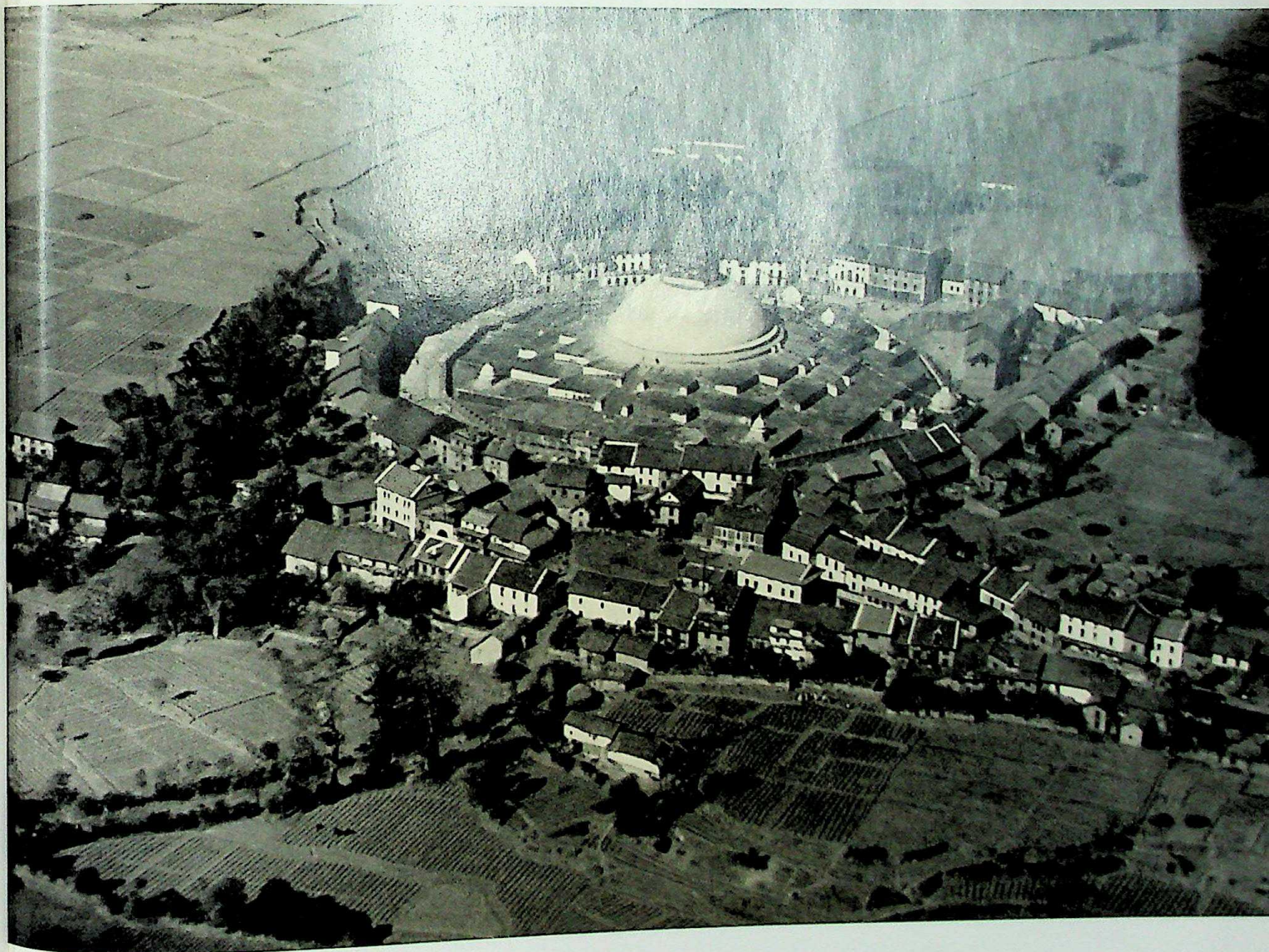
63 *Bodnath, the centre of Buddhist Lamaism in Nepal.* The domed temples erected above Buddhist relics are known as *stupas*. This one stands a couple of miles outside Kathmandu; the cupola has a diameter of 35 metres, or about 38 yards, and the tower is 38 metres high.

The temple consists of a round platform of brick-masonry rising in steps towards the centre, to the foot of the cupola. The cupola is also built of bricks. It is massive, and it is not known whether there are relics inside it or no, and if so, of what kind they are. The tower is of brass and gold, and at the period of the great pilgrimages (November to March) countless ropes on which flutter gaily-coloured prayer-flags are stretched from the top of the tower to the ground. In contrast to the Tibetan *stupa*-towers, each of the four sides of this tower has a face on it, symbolizing the omniscience of the Sublime One. On the outside wall of the platform there is an unbroken series of niches, each containing a great number of copper prayer-wheels. These are turned by the many pilgrims as they walk round the sanctuary, whereby the prayers on and in the cylinders are believed to rise to heaven. The diameter of the platform is about 100 metres, some 328 feet. At the four corners there are the usual small shrines. Adjoining on the north side there is a small *gonpa*.

This great sanctuary is, of course, a favourite place of pilgrimage for believers from the entire Buddhist world. Such pilgrimages from Burma, Ceylon, and the interior of Tibet sometimes last as much as two years. Often whole families participate in such journeys to the sanctuary. They support themselves during this time on the proceeds of the sale of the skins and semi-precious stones that they take with them.

Street vendors, artisans, and craftsmen of all kinds have settled there. In the course of time an extremely compact and architecturally harmonious circular settlement has grown up. As at the centres of pilgrimage of other religions, the usual undesirable accompanying features have also made their appearance at Bodnath. Craftsmen manufacture devotional objects, whose artistic value, sad to say, has deteriorated rapidly in the last few years. The tourists buy great quantities of hand-made articles nonetheless. This may be one of the reasons why the craftsmen were induced to abandon their former careful work and to turn to the mass-production of cheap wares.

Lately, Bodnath has become the centre of Tibetan refugees. Not only owing to the attraction of the sanctuary, of which it is not known what relics it contains; but also to the Chini Lama, the representative of the Dalai Lama in Nepal, who resides there. Last but not least, the great number of rich tourists and their generosity may also be an added attraction.





- 64 *The huge "carriage of the gods" of Machendranath.* The Machendranath festival is one of the most popular in Nepal. The meaning of the festival is explained in the text to Plate 67.

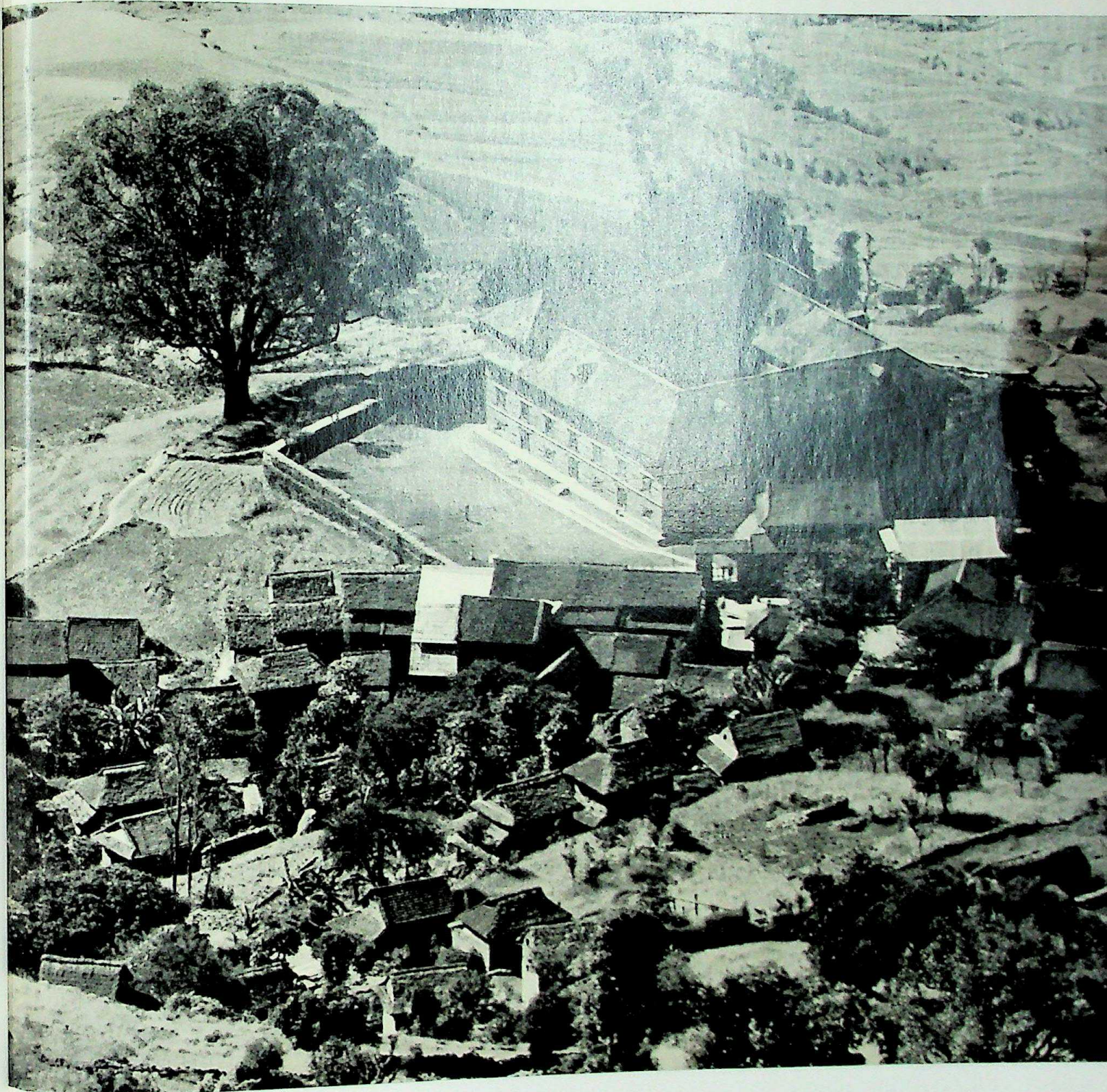
Machendranath, one of the many "grand magicians" of Buddhist tantrism, spends most of the year in a temple at Bungmati, south of Kathmandu. In the last month of the Nepalese year, which is March-April by our calendar, his "animate" wooden image is taken in procession to the town of Patan. There it is restored to life by being bathed in milk on the day of the full moon. Meanwhile the two "carriages of the gods" (somewhat similar to Juggernaut's car in India) are put together again and crowned with a high tower-like superstructure. The idol is placed inside one of the carriages, the procession passes from one part of the town to another, and finally, after several days, it reaches Jawalakhel. The festival ends with great pomp, gorgeous ceremonies, and religious dances shortly after it has reached its climax, when the shirt of the god is shown to the people. The Machendranath statue is then taken back again to its permanent residence at Bungmati.

The superstructure of the "carriages of the gods" rises to a height of 15 metres (circa 45-50 feet). They are made entirely of wood, bamboo and bast. All the overhead electric cables and telephone wires on the route along which the carriages will pass have to be removed, so that the tower may not be damaged. There is a popular belief that if the tower collapses during the procession, it portends a national disaster. The picture shows the "carriage of the gods" in 1953, when the towering superstructure actually did collapse.

- 65 *Carved wooden statue by an unknown master* (actual height: 90 centimetres, i.e. 36 inches). A splendid example of the many works of art by nameless artists, such as adorn the old temples in the vale of Nepal. This figure represents one of the Yakshis, goddesses of trees and fertility. These are a kind of semi-deity in the retinue of Vaishnavana, the god of wealth. They live in the depths of the earth and guard the treasures buried in it. Like the gnomes of the German national legends, they are in general thought to be good-natured and helpful.



66 *The historic town of Gurkha in central Nepal.* View from the castle of Gorakhnath (Plate 67). The large square building with the inner courtyard is the old Durbar of the Gurkha king, Prithwi Narayan. It is from this spot that he set out in the year 1766 on his victorious campaign, in the course of which he subjugated the small principalities and the kingdoms of the vale of Nepal. In the new kingdom of Nepal the Gurkhas declared their language, Gurkhali, the national language. The English later called all the inhabitants of Nepal Gurkhas, and still today the soldiers in foreign service are called by this name. The Durbar is built in the Newar style; the higher culture of the people who were later subjugated thus very early influenced the conquerors.



67 *Goraknath, the holy castle of Gurkha*. This castle, which may be called the very cradle of present-day Nepal, is perched on a hilltop (1600 metres) near the little town of Gurkha. There is a splendid view from here over the Nepal Midlands and the Himalayas; in the background rises the Annapurna-range. Goraknath has not only historic importance but also plays an important part in mythology. Goraknath, from which the name *Gurkha* is derived, was one of the 84 famous Grand Magicians who are greatly venerated especially in the tantrism of the Buddhists and the Hinduists. Many of these magicians, including Goraknath, are much older, however, than these two religions; they are also found in the early magic period of the primitive jungle tribes.

Once upon a time, long, long ago, Goraknath is said to have visited the vale of Nepal. The people took no notice of him, however, and did not venerate him. In his anger he retired to a cave in the mountains, five days' journey from the Nepal valley, in the region of present-day Gurkha. With his magic art he brought the Nags, the lords of water and rain, into his power, thus preventing rain from falling in the vale of Nepal. Even today the many pilgrims who toil up the steep stone steps to the hilltop castle are shown the cave in which Goraknath lived and where the "holy hearth of the Gorkha" was set up at the entrance of the cave (shown in the picture, below the big rock-boulder on the right at the end of the retaining-wall or buttress of the castle).

The terrible drought lasted for 12 months, man and beast were dying of thirst. So the people implored the king to think of some means by which the Grand Magician might be propitiated. The king hit upon the following plan: the *guru* (teacher) of Goraknath was Machendranath. If it were possible to induce the latter to come to Nepal, his disciple would also come. The famous magician Badunath offered to make Machendranath appear by means of his magic skill. He went to the famous magic land of Kamrup, which lies on the frontier between Bengal and Assam, and there he succeeded in forcing the spirit of Machendranath into a vessel, called Kalas.

Back in Patan, he carved the image of a god, and in order to animate it, he poured the spirit of Machandranath into a golden Kalas in the interior of the statue. So long as this vessel is filled with the "elixir of life", the soul of Machendranath remains inside it. But if ever the Kalas dries up, the spirit can escape, and the statue is dead.

Machendranath was now in Patan, and as the king had foreseen, his disciple Goraknath returned to the valley to do homage to his *guru*. His anger vanished, rain fell at last, the parched stalks bore fresh buds and the fields and trees brought forth their fruit in plenty.

The Machendranath festival derives from ancient mystic fertility rites for rain and a good harvest, mingled with Hinduistic and Buddhist symbols.



68 *In front of my tent, near Muktinath, at an altitude of 3900 metres above sea-level.* In the background rises Dhaulagiri. I first set foot in Nepal in the year 1950 as a member of the Swiss technical mission to Nepal. Later, from 1952 till 1958, I travelled all over the country. Commissioned by the Technical Assistance Administration of the United Nations, I was to make the first geological reconnaissance survey of Nepal.

The fossil in my left hand is an ammonite that I found at an altitude of over 5000 metres. Behind me, a group of my Sherpas, among them the two winners of the Tiger medal, Aila and Tashi. They call such petrifications, which are said to possess magic properties, "saligrams".







- 69 *Transport of cheeses from the highest dairy in the world.* The building of the first cheese-manufacturing dairy in the Nepalese Himalayas was an ideal joint undertaking of the FAO (Food and Agriculture Organization of the United Nations), the Colombo Plan (especially New Zealand) and the Swiss Aid to extra-European Areas. It provided the Nepalese peasants with a higher income.

The cheese, made of yak and *tsauri* milk, is produced only for export, and the peasants receive about twice the usual price for their milk.

The photograph shows the transport of cheeses from the dairy of Gyaltsan Gonpa, 3800 metres above sea-level. The footpath first passes along the foot of Gang-Chhenpo (at an altitude of 6397 metres, in the background of the picture) and then crosses the glacier-covered Gangja La at a height of 5600 metres above sea-level. It takes about seven days to reach Kathmandu on foot. In Kathmandu the cheese is stored at the central dairy, prepared for sale, and then transported by lorry or aeroplane to India, where it finds a ready sale.

- 70 *Mount Everest, 8848 metres above sea-level.* The recorded history of the highest mountain on the earth's surface is a good hundred years old. Mount Everest was "discovered" in the year 1852, and not by an adventurous explorer at that, but quite unromantically in the offices of what was then known as the Survey of India.

All the high summits of the Himalaya-range have been surveyed by triangulation and measured from the plain of the Ganges in India. As there were practically no local names for the peaks, or at least they could not be discovered, the various peaks were temporarily designated by numbers. The highest summit was given the name "Mount Everest" in 1856, in honour of Sir George Everest. The indigenous name, "Chomolongma", as the Tibetans on the northern flank and the Khumbu Sherpas on the south flank call it, became known only much later. It signifies something like the "Goddess Mother of the World", and is used to designate the entire Everest group, including Lhotse.

The struggle to conquer Everest lasted one hundred years. The mountaineering competition reached its climax in the year 1953, with the first ascent by the New Zealander, Sir Edmund Hillary, and the Sherpa Tenzing Norkey, members of the expedition under the leadership of Colonel (now Brigadier) Sir John Hunt. The cartographical survey was completed in 1955 with the splendid stereophotogrammetrical map on a scale of 1 : 25,000 of Erwin Schneider, an Austrian.

As hitherto, Mount Everest will in the future remain the ambition of many a mountaineer. Unfortunately it seems as if the fair and sportsmanlike contest is to be broken off by China's claim to the mountain. This claim can hardly be objectively substantiated, as the frontiers in the Everest region have from time immemorial been perfectly clear and well known to the local population. The boundary runs along the principal crest of the mountain-range, that is, across Cho Oyu, 8153 metres, Mount Everest, 8848 metres, Lhotse, 8501 metres, and Makalu, 8470 metres above sea-level. Our photograph shows Mount Everest from the south-west, or Nepalese, side, with the south-east ridge (the route by which it was scaled by the men who succeeded in making the first ascent), sloping down towards the right from the summit to the South Col.



TECHNICAL DATA

Camera: Alpa Reflex

Format: Miniature film 24×36 mm.

Lenses: Set of four lenses (28, 50, 90 and 180 mm. focal distance)

All the close-ups (flowers, scorpion) were taken with Kern-Switar and Tele-Xenar

Films: black-and-white: Ilford FP 3

Colour diapositives: Kodachrome (a few Ektachrome)

Six pictures were taken with a Voigtländer Camera "Bessa II", 6×9 cm. format

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I wish to thank the following for their collaboration:

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Pater W. Hermanns, Poona, India

Prof. Dr. W. Markgraf, Zurich

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